

NATIONAL INSTITUTE OF SIDDHA

TAMBARAM SANATORIUM, CHENNAI - 47

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

CHENNAI – 32

A STUDY ON

THANDAGA VATHAM

(DISSERTATION SUBJECT)



For the partial fulfillment of the
requirement to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH III - SIRAPPU MARUTHUVAM

APRIL – 2013

BONAFIDE CERTIFICATE

Certified that I have gone through the dissertation submitted by **Dr. R.SELVI, (Reg No.32102205)** a student of final M.D(S), Branch-III, Department of **Sirappu Maruthuvam, National Institute of Siddha**, Tambaram Sanatorium, Chennai-47, and the dissertation work has been carried out by the individual only. This dissertation does not represent or reproduce the dissertation submitted and approved earlier.

Place: Chennai-47

Prof..Dr.K.MANICKAVASAKAM, M.D(S).,

Date:

Professor & Head of the Department i/c

Dept. of Sirappu Maruthuvam

National Institute of siddha

Chennai – 600 047.

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

I express my profound sense of gratitude to **Prof. Dr. K. Manickavasakam, M.D(S)**, Director, National Institute of Siddha, Chennai-47.

I extend my sincere heartfelt thanks to **Prof. Dr. R. S. Ramaswamy, M.D(S)**, for his guidance during his tenure as Head of the Dept. of Sirappu Maruthuvam at National Institute of Siddha.

I express my heartfelt thanks to **Associate Professor Dr. N. J. Muthukumar, M.D(S)**, Department of Sirappu Maruthuvam, National Institute of Siddha, Chennai-47, for his valuable guidance and encouragement.

I express my sincere thanks **Dr.V. Mahalakshmi, M.D(S), Dr. M. V. Mahadevan, M.D(S), Dr. D. Periyasami, M.D(S)**, Lecturers, Department of Sirappu Maruthuvam, National Institute of Siddha, Chennai-47, for their valuable guidance and encouragement.

I express my heartfelt thanks to **Associate Prof Dr. M. Rajasekaran, HOD** i/c Department of Gunapadam, National Institute of Siddha, Chennai-47, for his valuable guidance and encouragement.

I express my thanks to **Dr. V. Suba**, Ph.D., Assistant Professor of Pharmacology and **Dr. M. Muthuvel**, Ph.D, Assistant Professor of Biochemistry, **Dr. D. Aravind**, Asst. Professor of Medicinal Botany, National Institute of Siddha, Chennai-47, for their guidance and support in Pharmacological, Biochemical and Botanical analysis of the trial drugs.

I am very much grateful to **Prof. Dr. P. Rathinavelu, M.S(Ortho), D.Ortho**, Department of Orthopaedics, Stanley Medical College, Chennai-1 for his encouragement.

I express my sincere thanks to Chairman and Members of Institutional Ethical Committee (IEC) and Institutional Animal Ethical Committee (IAEC), National Institute of Siddha for for their approval.

I express my thanks to **Mr. M. Subramanian**, M.Sc (Statistics), Senior Research Officer, National Institute of Siddha, for his valuable guidance in statistical analysis of the datas.

SL. NO	CONTENTS	PAGE NUMBER
1.	Introduction	1
2.	Aim and Objectives	4
3.	Review of Literature	6
	A. Siddha Aspects	6
	B. Modern Aspects	19
4.	I. Preparation and Properties of trial drugs	30
	II. Varmam	60
5.	Materials and Methods	70
6.	Observation and Results	81
7.	Laboratory Investigations	105
8.	Discussion	123
9.	Summary	127
10.	Conclusion	130
11.	Bibliography	132
12.	Annexures	
	I. Certificates	135
	II. Toxicological and Biochemical Analysis	141
	III. Case sheet Proforma	148

INTRODUCTION

INTRODUCTION

Siddha system of medicine is an ancient, unique and codified indigenous system of medicine. This system was formulated and established by Siddhars who are the spiritual scientists of the ancient tamil culture about more than several thousand years back.

In Siddha medicine the treatment is given to the physical body as well as to mind. This system comprises of four main branches called Vaatham, Vaithiyam, Yogam and Gnanam. The siddha system has not only the curative and preventive effects on different diseases but also paves the way for longevity and immortality.

In the basic concept of Siddha, Man is said to be microcosm, and the world is macrocosm; because what exists in the world exists in man; in other words there is nothing in the macrocosm of nature that is not contained in man. So man must be looked upon as an integral part of universe, which are comprised of five universal elements (Panchabootham) namely,

- Earth - Pirithuvi
- Water - Appu
- Fire - Theyu
- Air - Vaayu
- Ether - Aahayam

So, any changes in the universe will reflect in human body. This has been stated in the siddha text 'Sattamuni Gnanam' as follows;

“அண்டத்தில் உள்ளதே பிண்டம்
பிண்டத்தில் உள்ளதே அண்டம்
அண்டமும் பிண்டமும் ஒன்றே
அறிந்து தான் பார்க்கும் போதே.”

According to Siddha, physical health of human body is maintained by the three basic vital forces i.e Uyir thathukkal (Humours) namely, Vaatham, Pitham, Kabam which are activated by the function of Panchabootham (Five basic elements). When the above said humours are affected by the life style modifications and food habits they become kutrams and causing for diseases.

This has been stated in Thirukkural as follows:

“மிகினுங் குறையினும் நோய் செய்யும்
நூலோர் வளி முதலா எண்ணிய மூன்று.”

In Siddha System of medicine, the diseases of human beings are classified into 4448 types on the basis of Mukkutram theory.

தெளிவான வாதபித்த சேத்து மத்தால்
சேர்ந்துவரும் பலபிணி உறத்தி னோடு
வளிவாக நாலாயிரத்து நானூற்று நாற்பத்தெட்டு

-சதகநாடி

In Yugi Vaithya Chinthamani, Yugi munivar classified the Vatha diseases as 80 types and “Thandaga vatham” is one among them. In Yugi as per the text the signs and symptoms of Thandagavatham may be correlated with the Lumbar Spondylosis in modern science.

என்னவே வாதமது என்பதாகும்

-யூகி முனி

Lumbar spondylosis is a degenerative condition which affects the lower spine. In lumbar spondylosis, the spine is compromised by a narrowing of the space between the vertebrae, causing a variety of health problems ranging from back pain to neurological issues. This condition is usually because of old age, as the spine undergoes changes as people grow older, and many of these changes contribute to degeneration of the vertebrae.

The disease Thandaga vatham (Lumbar spondylosis) was selected by this author for preclinical and clinical study with “**Akkini Chooranam**” as Internal drug, is a classical siddha formulation mentioned in text ‘**Agasthiyar Vaithiya Rathina Churukkam**’, which is indicated for all types of Vaatha diseases and **Kethaghi Thailam** as external application which is mentioned in the siddha text ‘**Sarabendirar Vaithya Muraigal** - Vaatharoga chikichai’ which is also indicated for vatha disease.

AIM AND OBJECTIVES

AIM AND OBJECTIVES

OBJECTIVES:

PRIMARY OBJECTIVE:

To evaluate the Therapeutic efficacy of “**Akkini chooranam**” (Internal) and “**Kethaghi thailam**” (External) in the treatment of “**Thandaga vatham**” (**Lumbar spondylosis**) for reducing pain, and to improve the range of movements.

SECONDARY OBJECTIVES:

- To study the effect of Varmam, a special therapy technique of siddha along with trial drug.
- To do a correlative study of Siddha and modern aspects of this disease
- To do a complete study of this disease under the following topics:
 1. Mukkutra verupadugal - Imbalance or abnormalities of three thadhus.
 2. Udal thaathukkal - Physical constituents of the body
 3. Envagai thervugal - Eight tools of examination.
- To study the safety of trial drug by doing toxicological analysis.
- To evaluate the biochemical analysis of the drugs.
- To study the incidence of the diseases with regard to age, sex, socio economic status etc.,

**REVIEW OF
LITERATURE
A. SIDDHA ASPECTS**

REVIEW OF LITERATURE

SIDDHA ASPECTS:

THANDAGA VATHAM

அவயங்களைச் செயலறச் செய்து உடம்பைத் தண்டத்தைப் போல் வீழ்த்தி, நீட்டல், மடக்கல் அசைத்தல் முதலியவை இல்லாமல் சுவத்தைப் போல் கிடக்கச் செய்யும் ஓர் வகை வாத நோய்.

Thandaga vatham is a kind of rheumatic disorder characterized by great prostration in which the body is rendered like a log of wood, unable to stretch or fold the limbs and pass motion or urine.

தண்டகவாதம் = தண்டகம் + வாதம்

தண்டகத்தை பாதிக்கும் வாதம்.

தண்டகம்- வீணாதண்டம் என்னும் முதுகெலும்பு (Vertebral column with spinal cord as the seat connecting mystic centres)

தேக விறைப்பு – Stiffness of the whole body, which is rigid and stiff like a rod.

Vatham - is a clinical condition characterized by pain, swelling, pricking sensation and loss of function due to vitiated vatham, which is the principal humour of the body.

- *T.V. Sambasivam Pillai Dictionary*

According to Yugi Vaithiya Chinthamani,

“வழுத்தவே மூலாதா ரத்தைப் பற்றி

மருவியே மேலேறி முதுகு மட்டாய்

விழுத்தவே சிரசில்வந்து வியர்வு மாகி

விகுவாக நோவாகி மேனி கன்றிப்

பழுத்தவே யுடம்பெங்கும் பஞ்சு போலாம்

பாங்கான மலசலமு மஞ்ச ளாகும்

குழுத்தவே தண்டகமாம் வாதந்தன்னைக்

கூறினோங் குணமெலாம் கூர்ந்து பாரே

கூர்ந்திட்ட மலசலங்கள் துரித மானால்

கொண்டடக்கிப் பின்புதான் கொடிதாய் தள்ளி

ஊர்ந்திட்ட சரிரத்தி லுதிர மீறி

உறத்தேய்த்துத் தலையதனி லெண்ணெய் வார்க்கில்

வார்ந்திட்ட வழிடைக்கில் மெத்த உந்தான்

வாதந்தா னுற்பவித்து நடைகொ டாமல்

நார்ந்திட்ட நரம்போடு எலும்பிற் சூழ்ந்து

நணுகியே யோடிநெஞ்சி லேறுந் தானே.”

-Yugi Vaithiya Chinthamani

This condition occurs due to the excessive vaayu which has ascended from the base of the spine up to the head, while entering into the first stage of Yogam.

ETIOLOGY:

According to Yugi Vaithiya Chinthamani,

"தானென்ற கசப்போடு துவர்ப் புறைப்பு

சாதகமாய் நெஞ்சுகினுஞ் சமைத்த வன்னம்

ஆமென்றே ஆறினது பொசித்தலாலும்

ஆகாயத் தேறலது குடித்த தாலும்

பானென்ற பகலுறக்க மிராவி ழிப்பு

பட்டினியே மிகட்வுறுதல் பார மெய்தல்

தேனென்ற மொழியார் மேற் சிந்தை யாகல்

திறம்படவே வாதமது வருகும் காணே

சீக்கிரமாய் வாதமது செனிக்குந் தானே."

- Yugi Vaithiya Chinthamani

Excessive intake of bitter, pungent, and astringent taste foods, cold foods, sleep during day time, excessive weight, excess sexual intercourse are the causes for vatha diseases.

Controlling the diarrhoea which produce “Thandaga vaayu” . Activities like taking head bath, walking a long way etc, during this period of diarrhoea aggravates vatham and it affects the nerves, bones and spreads up to the trunk causing difficulty in walking.

CLINICAL FEATURES:

According to Yugi Vaithiya Chinthamani the following clinical features were seen:

- Stiffness of the body
- Sweating, body pain
- Paleness of the body
- Yellowish discolouration of stools and urine.

In the text, Vatha Noi Maruthuvam :

"தண்டுவாதத்தின் குணத்தை சாற்றக்கேளாய் மடமயிலே
பண்டேதண்டுமிகஊதி பற்றிபொருமி கொண்டிருக்கும்
விண்டோம் சில போதுளைவுண்டாம் மிகுந்த வாட்டமுண்டாம்
கொண்டெ மனமும் தளர்ச்சியும் கோபமதிகம் காணும் என்றே."

- *Vatha Noi Maruthuvam.*

There will be inflammation of spine. Some time gnawing pain will be present. Generalized tiredness, mental depression and excessive anger may be seen..

இடுப்பு வாதம்

"இடுப்பது கடுத்து உளைந்து இடைவிடா வலித்துக் கொள்ளும்
முடுக்கமாய் குனியவே தான் முடுகியே நிமிர்வொட்டாது
துடுக்கென வந்து அடரும சுரமது அற்பம் அற்பம்
சடக்கென இடுப்பைச் சுற்றி சார்ந்திடும் வாதம்தானே
நடப்பெனபோது மெத்த நய்யவே வலிக்குமென்ன
கெடப்பேனபோதும் சற்றே குணமென தோன்றுமாகில்
படுப்பென போதும் யாமம் பாகியால் வாதமுண்டாம்
இடுப்பென சேரும் வாதத்தியலிது எண்ணுவீரே"

- *Vatha Noi Maruthuvam*

The clinical features are,

- Suffering due to continuous pain in the low back region.
- Difficulty in bending forward and standing erect from that position.
- Sudden onset of fever.
- Warmth around the low back region.
- Pain increases on walking and decreases on lying.

GENERAL CHARACTERS OF VATHA DISEASES

“வாதம் வந்துற்ற போது வயிறது பொருமிக் கொள்ளும்
தாதவிழ்ந்திடுப்பு கைகால் சந்துகள் கடுப்பு தோன்றும்
சீதொரு மலமு நீருந் சிறுத்துடன் கடுத்து விழ
மாதவமரை மேல் வந்த வாதத்தின் குணமிதாமே.”

- *Yugi Munivar Perunool Kaaviyam*

Vatha diseases are characterized by pain and swelling in joints, abdominal distension, constipation and burning micturition.

“காணப்பா வாதமீறில் கால்கைகள் பொருத்து நோவும்
பூணப்பா குடல் புரட்டும் மலசலம் பொருமி கட்டும்
ஊணப்பா குளிருங் காய்ச்சல் உடம்பெல்லாம் குத்து வாய்வு
வீணப்பா குதமிறுக்கும் வியர்வையும் வேர்க்கும் தானே.”

- *Agathiyar Vaithiya Kaaviyam -1500*

Joint pain, nausea, constipation, oliguria, fever, rigor and sweating are produced due to vitiated vatham.

"வாதவீறு அன்னமிறங்காது கடுப்புண்டாம் வண்ணமுண்டாம்
மோதுகட்டு ரொகம் சுரமுண்டா மிருமலுமா முறங்காதேன்றும்
ஓது சூரிய வாத மனலாகு நடுக்க முண்டாம் போருள்களாய்த்
தீதனவே நரம்பிசித்து சந்துகள் தோறுங் கடுக்கும் தினமுந்தானே"

- *Thaerayar Vaagadam*

Loss of appetite, pain and redness, fever, cough, insomnia, shivering, pain in all joints are the characteristic features of vatha diseases, which is mentioned in Theraiyar vaagadam.

PRECIPITATING FACTORS

Kanmavinai:

“நூலென்றவாதம் வந்த வகைதானேது
நுண்மையாய்க் கன்மத்தின் வகையைக் கேளு
காலிலே தோன்றியது கடுப்பதேது
கைகாலில் முடக்கியது வீக்கமேது
கோலிலே படுக்கின்ற விருட்சமான
குழந்தைமரந் தனை வெட்டல் மேல் தோல் சீவல்
நாலிலே சீவ செந்து கால் முறித்தல்
நல்லகொம்பு தழை முறித்தல் நலித்தல் காணே.”

- *Agathiyar Kanma Kaandam*

Kanmavinai (Sins committed in the previous birth) is also indicated as the aetiology of vatham diseases

DIET AND HABITS:

Certain diets also play an important role in causing this disease:

"தொழில்பெறு கைப்புக்கார்த்தல் துவர்த்தல் விஞ்சுகினுஞ்
சோரும் கழையதாம் வரகு மற்றைப்பைந்தினை யருந்தினாலும்
எழில் பெறப் பகலுறங்கி இரவினிலுறங் காததாலும்
மழை நிகர் குழலினாலே வாதங்கோ பிக்குங் காணே."

- *Pararasa Segaram*

Excess intake of bitter, astringent and pungent taste in excess, consumption of cold foods, intake of millet etc aggravate vatham.

“வெயிலில் நடக்கையாலும் மிகத்தன்னிர் குடிக்கையாலும்
செய்யிழை மகளிழை சேர்ந்தனுப விக்கையாலும்
பையனே உண்மையாலும் பாகற்காய் திண்கையாலும்
தையலே வாதரோகம் சனிக்குமென் றறிந்து கொள்ளே.”

- *Thaerayar Vaagadam.*

Walking in hot sun, excessive intake of water. intake of bitter gourd may predispose to vatha diseases.

ENVIRONMENTAL FACTORS :

"வாதவர்த் தனைகால மேதோ வென்னில்
மருவுகின்ற வானிகர் கடக மாகும்
ஆதலைப் பசியோடு கார்த்திகை தன்னில்
அடருமே மற்றமா தங்கள் தன்னில்
போதவே சமிக்குகின்ற கால மாகும்."

- Yugi Vaithiya Chinthamani,

வாதம் மிகுதியாகும் காலங்கள்:

"பதுமத்தை பூக்கவைக்கும் பானுமிகக் காயும்
முதுவேனி விற்புவிநீர் முற்றும் - கதுமென
வற்றும் கபமஃகும் வாயுமிகும் வாழ்மாந்தர்க்
குற்ற நலிக் கேதிதென் றோது."

- Siddha Maruthuvaanga Surukkam.

According to Siddha sytem of medicine the Vaatham diseases are precipitated during the month from Aadi to Iipasi (June to December).

SIDDHA PATHOPHYSIOLOGY:

Changes in lifestyle, occupation, food and other habits lead to development of this disease by causing derangement of muththathus. Improper food habits alter the elemental composition directly while the other causes lead to derangement of these elements indirectly. When the elemental composition is altered, the uyir thaathukkal or the three humours which are made up of these elements naturally also get deranged. This simultaneously leads to derangement of seven udal thaathukkal, which produces symptoms of the disease 'Thandaga vatham'.

DIAGNOSIS

Diagnosis of Thandaga vaatham in Siddha is based on Envagai thervugal and also on the other factors like

1. Uyirthaathukkal
2. Udalthaathukkal
3. Gnanenthiriyam
4. Kanmenthiriyam

ENVAGAI THERVUGAL

Sl. No	General Definitions for each type	Features in Thandaga vatham
1.	Naadi Naadi means a vital force. This vital force is divided into three humours- Vatham, Pitham and Kabam. It can be felt in 10 sites of body. The common and convenient site is the radial artery	In Thandaga Vatham the naadi felt are vathapitham, pithavatham, pithakabam and kabapitham.
2.	Sparisam By Sparisam, temperature of body, smoothness and roughness, hard patches, sweating, swelling, tenderness and nourishment can be felt.	Localized heat felt over the affected joint. Tenderness present in low back and lower limbs.
3.	Naa Colour, coating, dryness, deviation, sensory changes, condition of tooth gums is noted.	Coating of tongue is noted due to constipation
4.	Niram Colour of skin, mucous membrane, hair and nail are examined.	Mixed Colour due to mixed thodams
5.	Mozhi Disturbance in voice, hoarseness of voice, etc are assessed.	No changes or disturbance of voice are found

6.	Vizhi Testing for vision, colour, redness, pallor, whiteness and excessive lacrimation.	No abnormality is seen. In aged patient vision is diminished.
7.	Malam The waste and excretory products of body are called as Malam, the faeces be semi solid without hardness and looseness. Nature, quantity colour, odour, froth, presence of blood and mucus are noted.	Most of the patients have constipation.

THREE UYIR THAATHUKKAL

1. Vatham

In Thandaga vatham patients among the ten types of vatham; the following five types are affected and causing symptoms accordingly.

1. Abanan - Affected (causing constipation)
2. Viyanan - Affected (producing restriction of joint movements)
3. Samanan - Affected (deranging the other four types of vatham)
4. Devathathan - Affected (causing sleep disturbance)

2. Pitham

Among the Five types of pitham (Paasagam, Ranjagam, Pirasagam, Alosagam and Saathagam) the Saathaga pitham only affected in Thandaga vatham patients and causing difficulty in walking, sitting and bending forward postures.

3. Kabam

In the five types of Kabam (Avalambagam, Kilethagam, Pothagam, Tharpagam and Santhigam) Santhigam only affected in thandaga vatham patients and causing pain in low back region and restriction of movements in the lumbo sacral junctions.

SEVEN UDAL THAATHUKKAL:

Among the seven Udal thaathukkal (Saaram, Senneer, Oon, Kozhuppu, Enbu, Moolai and Chukkilam/Suronitham) the following four are commonly affected in Thandaga vatham patients.

1. Saaram - Tiredness and weakness
2. Oon- Muscular pain, muscle spasm
3. Kozhuppu - Pain in low back region, restriction of movements.
4. Enbu - Weakness of bone
4. Moolai - Osteoporotic changes

GNANENTHIRIYAM

The thandaga vatham patients are having the clinical features of pain, numbness and burning sensation especially in lower limbs. These are felt through Mei.

KANMENTHIRIYAM

In Thandaga vatham patients, Kaal is affected. This is due to radiating pain, difficulty in walking etc.

NOI KANIPPU VIVADHAM (DIFFERENTIAL DIAGNOSIS)

Some types of Vatham diseases are mimicking like Thandaga vatham. Careful and clear history taking and examination will reveal the correct diagnosis.

They are:

1. Aasuvathamba vatham.
2. Ooruthamba vatham.
3. Poosu vatham.

ஆசுவதம்ப வாதம்

“வாதமா யுடல்வெளுத்து வடிவெல் லானோம்
மயக்கமோ டிருமலா மீளையுண்டாம்
நேதமாய் நெஞ்சடைத்துப் பொறிக லங்கும்
நெருப்பாக உடல்காணு நெடுமூச் சுண்டாம்
கோதுதான் மயக்கத்தில் மருத்தி னீட்டால்
குளிர்ச்சியாய்க் கோபிக்குங் கூச்ச லுண்டாம்
பாதந்தான் நிமிருண்டாய் முட்போ லாகும்
படுத்தஆ சுவதம்பம் பகர லாமே
பகரவே வாதமது கோபித் தப்போ
பண்பாக ஸ்திரீகோஷ்டி யதுதான் செய்யில்
நகரவே வெகுதூர வழிந டக்கில்
களிகான காற்றுமே பனிமேற் பட்டால்
மிகரவே காய்கள்கனி கிழங்கு தன்னை
மிகவருத்தி மீறியே தயிர்தான் கொண்டால்
முகரவே முதுகெலும்பை முறுக்கி நொந்து
முழங்காலுங் கணைக்காலுங் கடுப்புண்டாமே.”

-Yugi Vaithiya Chinthamani.

The clinical features are,

- Paleness of the body.
- Cough.
- Heaviness in the chest.
- Numbness of both feet.
- Indulging in sexual intercourse, long walking, exposure to chill weather, eating curd, tubers etc worsen the disease.

ஊருத்தம்ப வாதம்

“ஆமென்ற வாதமது உள்ளடங்கி

அடித்துடைதான் குறங்கிரண்டு மலவாய்ப் பற்றிக்

காமென்ற கைகாலில் விரலுஞ் சுற்றிக்

கனத்துமே சாணியது பொதிந்தாற் போலத்

தேமென்ற சிரஞ்தனிலே பார முண்டாய்த்

தேகமெங்கு மூதியே திமிருண் டாகும்

நாமென்ற நடக்கொணா வொடுக்க மாகி

நலியுருத் தம்பமது நணுகுங் காணே.”

- Yugi Vaithiya Chinthamani.

The clinical features are,

- Heaviness in both thighs.
- Feeling of dung applied over fingers of both hands and feet.
- Numbness in whole body.
- Difficulty in walking.

பூச வாதம்

“தம்பமா மலத்துவா ரந்த னைத்தான்

தைத்ததோ ரம்புபோற் குடைந்து னொந்து

ஊம்பமா முள்ளடியி னளவாய்ப் பற்றி

உறுதியாய் மிகநொந்து குடைச்சல் காணும்

நம்பனார் பதம்போற்றா நபர்கள் தன்மை

நணுகியே யுருக்குலைத்து நலிக்கப் பண்ணுங்

கம்பமாங் கனத்துதிரம் வலியுண் டாக்குங்

கனத்ததோர் பூசவா தந்தா னாமே.”

-Yugi Vaithiya Chinthamani.

It is characterized by

- Pricking pain in the anus.
- Pain in the lower back.
- Alteration in body movements.
- Pain all over the body.

LINE OF TREATMENT

In Siddha system, the treatment is based on mukkutram theory. Treatment is not only for curing the disease but also for the prevention recurrence of the symptoms and rejuvenation of udal kattugal.

Line of treatment is as follows:

1. Neekkam (Treatment)
2. Niraivu (Restoration)
3. Kaappu (Prevention)

MODERN ASPECTS

MODERN ASPECTS

The lumbar spine refers to the lower back, where the spine curves inward toward the abdomen. It starts about five or six inches below the thoracic spine shoulder blades, and connects with the at the top and extends downward to the sacral spine.

“Lumbar” is derived from the Latin word “lumbus,” meaning lion, and the lumbar spine earns its name. It is built for both power and flexibility. The lumbar spine has the following several distinguishing characteristics:

- The five vertebrae of the lumbar spine (L1-5) are the biggest unfused vertebrae in the spinal column, enabling them to support the weight of the entire torso.
- The lumbar spine meets the sacrum at the lumbrosacral joint (L5-S1). This joint allows for considerable rotation, so that the pelvis and hips may swing when walking and running.
- The lumbar spine’s lowest two spinal segments, L4- L5 and L5-S1, which bear the most weight and the most prone to degradation and injury.
- The spinal cord travels from the base of the skull through the spinal column and ends at about T12-L1. At that point numerous nerve roots from the spinal cord continue down and branch out, forming the “cauda equina,” named for its resemblance to a horse’s tail. These nerves extend to the lower extremities (buttocks, legs and feet).

ANATOMY OF LUMBAR VERTEBRAE:

The lumbar vertebrae are the largest segments of the movable part of the vertebral column, and can be distinguished by the absence of a foramen in the transverse process, and by the absence of facets on the sides of the body.

Vertebral Body:

The body is large, wider from side to side than from before backward, and a little thicker in front than behind.

Pedicles:

The pedicles are very strong, directed backward from the upper part of the body; consequently, the inferior vertebral notches are of considerable depth. They are made of thick cortical bone.

Intervertebral Discs

The disc is made up of, the nucleus pulposus and the annulus fibroses.

Nucleus pulposus :

The nucleus pulposus is the water-rich (proteoglycan-rich), gelatinous center of the disc, which is under very high pressure when the human is upright--especially in the seated or flexed position. It has two main functions to bear or carry the downward weight of the human body and to act as a 'pivot point' from which all movement of the lower trunk occurs. Its third function is to act as a ligament and bind the vertebrae together.

Annulus fibrosus:

The annulus fibrosus is much more fibrous than the nucleus. It also has a much higher collagen content and lower water content (lower in proteoglycan) when compared to the nucleus. The annulus is made of 15 to 25 concentric sheets of collagen (a tough cartilage-like substance) that are called Lamella.

Ligamentum Flavum :

The ligamentum flavum is a strong ligament that connects the laminae of the vertebrae.

Lamina:

The laminae are broad, short, and strong; the vertebral foramen is triangular, larger than in the thoracic, but smaller than in the cervical region.

Spinous process:

The spinous process is thick, broad, quadrilateral, it projects backward and ends in a rough, uneven border.

Articular process:

The superior and inferior articular processes are well-defined, projecting respectively upward and downward from the junctions of pedicles and laminae.

Facet Joint:

The facets on the superior processes are concave, and look backward and medialward, those on the inferior are convex, and are directed forward and lateralward.

Foramen:

The foramen are wider apart than the latter, since in the articulated column the inferior articular processes are embraced by the superior processes of the subjacent vertebra.

Transvers process:

The transverse processes are long, slender, and horizontal in the upper three lumbar vertebrae.

LUMBAR VERTEBRAE

They are 5 in number, of which the first four are typical and the fifth is atypical. A lumbar vertebra are longer in size. Absence of costal facets on the body.

Typical lumbar vertebra:

- Vertebral body is large and is wider from side to side than from before to backwards.
- Foramen of the vertebrae is triangular in shape and is larger than thoracic region.
- Pedicles are short and strong. They project backwards from the upper part of body.
- Laminae are short and thick broad. They are directed backwards and medially.
- The spine forms a vertical quadrilateral plate direct backwards and downwards.
- The transverse processes are thin and tapering and are directed laterally and slightly backwards.
- The superior articular processes lie farther apart than inferior. Each process bears a concave facet facing medially and backwards. Inferior articular process lies nearer to each other than superior.

FIFTH LUMBAR VERTEBRA:

The most important distinguishing features are ,

1. The transverse process are small, short and pyramidal in shape.
2. The distance between the inferior articular processes is equal or more than the distance between the superior articular process.
3. The spine is small and short.
4. Body is the largest of all lumbar vertebrae. Anterior surface is deep.
5. Body being much deeper in front than behind, which accords with the prominence of the sacrovertebral articulation; by the smaller size of its spinous

6. Pedicles are directed backwards and laterally
7. Superior articular facets look more backward than medially and inferior articular facet look more forwards.

Neurology:

Nerves carry pain messages signals from the periphery (i.e., anything outside of the brain and spinal cord) to the primary sensory cortex of the brain where they get interpreted into the feeling or perception. pain travels from the peripheral nervous system (PNS) to the central nervous system (CNS).

There are two type of nerves motor nerves (efferent nerves) and sensory nerves (afferent nerves). Motor nerves carry messages away from the brain and spinal cord (i.e, the CNS) outward to the muscles of body, and sensory nerves carry messages (including proprioception (sense of postion), temperature, touch, pain, and pressure messages) from the periphery into the CNS.

Spinal cord is a "superhighway" of sensory and motor neurons(nerves). The function of these neurons is to carry sensory Information to the brain (like the perception of touch, temperature, proprioception and pain) and motor information to the periphery (like commands that make you limbs move)--they are vital for the survival of our bodies.

The real spinal cord stops between the L1 and L2. Incoming nerve roots below the level of L1 and L2 have a not-so-super highway of their own called the thecal sac (dural sac). The thecal sac has a protective outer covering of dura and contains only cerebrospinal fluid, which is not very protective of the free-hanging nerve roots in this region. The thecal sac terminates at the S2 level in most cases.

Peripheral nerves entering the spine, the mechanism is the same at all regions of the spine. They enter as well as leave through a bony hole that is created by the vertebrae above and the vertebrae below. The hole is called the intervertebral foramen (IVF). Nerve roots of the thoracic and cervical regions into the spinal cord immediately whereas, nerve roots in the sacral and lumbar regions have to travel through the thecal sac all the way up to the L1 and L2 level before they enter the conus medullaris.

The nerve roots of L2 through S5 vulnerable to compression and chemical irritation (which collectively hang in the thecal sac and make up what is called the cauda equina or horses tail) within the thecal sac because all that is protecting them is the thin, delicate, innermost layer of the meninges, the *pia matter*.

LOW BACK PAIN

Low back pain (LBP) affects approximately 60–85% of adults. Fortunately, for the large majority of individuals, symptoms are mild and transient, with 90% subsiding within 6 weeks.

Chronic low back pain is defined as pain symptoms persisting beyond 3 months. It affects 15 to 45% of the population

LUMBAR OSTEOARTHRITIS:

It is a degenerative process defined radiologically by joint space narrowing, osteophytosis, subchondral sclerosis, and cyst formation. Osteophytes include two primary clinical types

1. *Spondylosis deformans:* Describes bony outgrowths arising primarily along the anterior and lateral perimeters of the vertebral end-plate apophyses.

2. *Intervertebral osteochondrosis:* Describes the formation of more pathological end-plate osteophytes, associated with disk space narrowing and vertebral body reactive changes. These bony growths may compress nerves with resulting radiculopathy or spinal stenosis. Moreover, these bony projections may limit joint mobility.

DEGENERATIVE DISC DISEASE

It refers to back pain symptoms attributable to intervertebral disc degeneration. Such pathologic changes include disk desiccation, fibrosis, and narrowing.

LUMBAR SPONDYLOSIS

Spondylosis, noninflammatory degenerative disease of the spine resulting in abnormal bone development around the vertebrae and reduced mobility of the intervertebral joints. It is primarily a condition of age and occurs much more commonly in men than in women; onset of symptoms is gradual, but untreated spondylosis will progress to disabling tingling pain, limited motion, and partial paralysis in affected areas of the body. The high incidence of simultaneous degenerative changes to the intervertebral disc, vertebral body.

EPIDEMIOLOGY:

Approximately 84% of men and 74% of women have vertebral osteophytes, most frequently at T9-10 and L3 levels. Approximately 30% of men and 28% of women aged 55-64 years have lumbar osteophytes. Approximately 20% of men and 22% of women aged 45-64 years have lumbar osteophytes.

Phase I (Dysfunction Phase):

Phase I describes the initial effects of repetitive microtrauma with the development of circumferential painful tears of the outer, innervated anulus, and associated end-plate separation that may compromise disc nutritional supply and waste removal.

Phase II (Instability Phase):

Phase II is characterized by the loss of mechanical integrity, with progressive disc changes of resorption, internal disruption, and additional annular tears, combined with further facet degeneration that may induce subluxation and instability.

Phase III (Stabilization Phase):

In this phase; continued disk space narrowing and fibrosis occurs along with the formation of osteophytes.

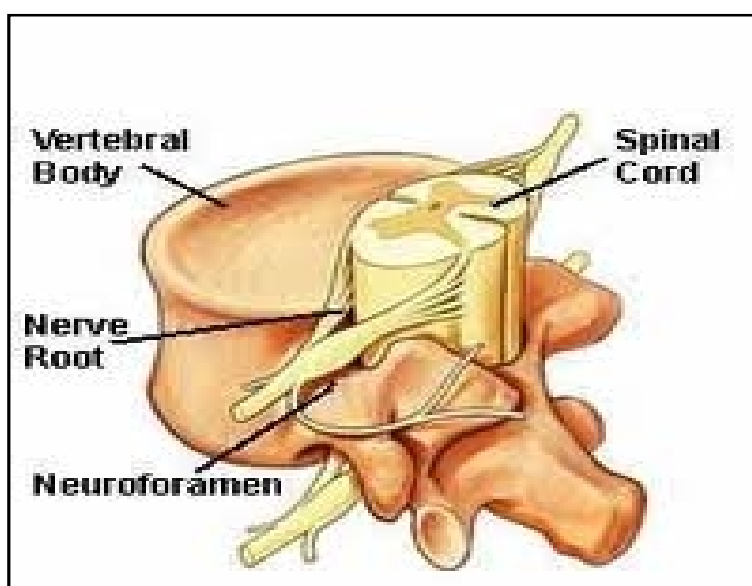


LUMBAR SPONDYLITIS:

Spondylitis is a condition where there is an inflammation of lumbar spine. The inflammation can be mild, moderate or severe leading to a range of severity of symptoms. There is not only inflammation of the vertebra but also some amount of fusing, which gives painful stiffness.

Symptoms:

- Pain associated with stiffness.
- Restricted mobility of the back, disturbing day to day life activities.
- There may also be deformity of the spine over the period of time.

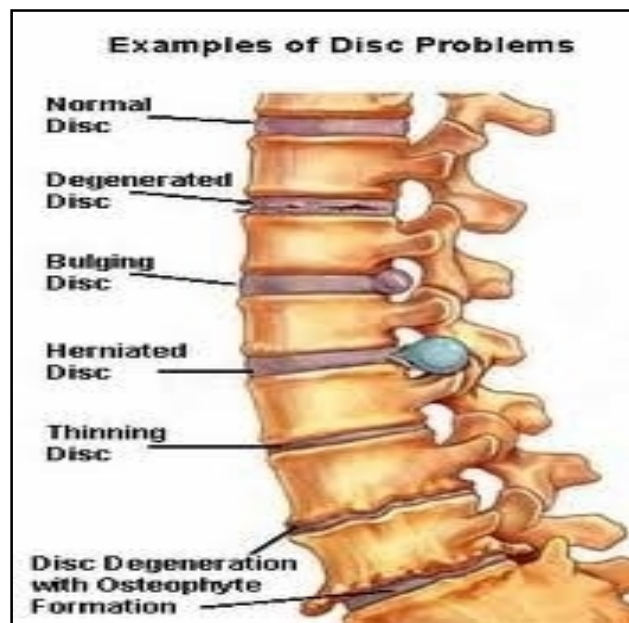


LUMBAR SPONDYLOLYSIS:

Spondylosis happens when a crack forms in the bony ring on the back of the. In this condition, the bone that protects the spinal cord fractures as a result of excessive or repeated strain. The area affected is called the pars interarticularis, and caused by repeated strains that damage the lower opine over time.

Symptoms:

- Pain and stiffness in the center of the low back.
- Bending fully backward increases pain.
- Symptoms typically get worse with activity and go away with rest.
- Individuals may eventually experience pain that radiates down one or both legs.



LUMBAR SPONDYLOLISTHESIS

Spondylo, means spine, and *Listhesis*, means slip or slide. It is a descriptive term referring to slippage of a vertebra and the spine above it relative to the vertebra below it.

The etiologies can be classified as;

- Congenital (dysplastic),
- Spondylolytic (isthmic),
- Degenerative,
- Ttraumatic,
- Pathologic,
- Iatrogenic (eg, postoperative).

DIAGNOSIS

Diagnosis is mainly based on X-rays

1. X- Ray Lumbar Spine

- AP view – look for vertebral column, any pedicular lesion.
- Lateral view – shape & size of vertebral body.
 - Integrity of ant .& post .walls
 - Inter vertebral disc space
 - Oblique view– side to side collapse.
 - Any deviation in the longitudinal axis of vertebral column.

2. Computed Tomography(CT):

CT is helps to detect the foraminal structures and lateral disc prolapse.

3. MRI

MRI helps to detect intra-spinal lesion, examine entire spine, identifies degenerative disc.

4. Myelograph

Injecting radio opaque dye inserted spinal canal and taking radiographs of back. Helping in detecting intraspinal lesion, spinal stenosis, causes of previously operated backs.

5. Other Tests

Discography, Bone scans, EMG

DIFFERENTIAL DIAGNOSIS

1. Multiple myelomas
2. Ankylosing spondylitis
3. Vascular insufficiency
4. Osteoporosis with stress fractures
5. Extra dural tumors.
6. Peripheral neuropathy
7. Herpes zoster
8. Multiple sclerosis

COMPLICATIONS

- Severe spinal stenosis
- Paraplegia
- Cauda equina syndrome
- Neurogenic claudication.

PREPARATION AND PROPERTIES OF TRIAL DRUGS

PREPARATION AND PROPERTIES OF TRIAL DRUGS
PREPARATION OF AKKINI CHOORANAM (INTERNAL DRUG)

[Reference: Agasthiyar Vaidhiya Rathina Churukkam Page no: 44, 45]

Ingredients:

- | | |
|---|-----------------------|
| • Purified kodiveli(<i>Plumbago indica</i> Linn) | -1 balam (35 gms) |
| • Thirikadugu (<i>Zingiber officinale</i> . Rosc, Pipper nigram
Linn, Piper longum) | -1 balam (35 gms) |
| • Oomam (<i>Carum copticum</i> . Benth&Hook.f.) | - 1 Palam (35 gms) |
| • Sirutheakku(<i>Clerodendrum serratum</i> .(Linn) Moon) | - 1 Palam (35 gms) |
| • Yaanai thippili(<i>Scindapsus officinalis</i> ,Schott.) | - 1 Palam (35 gms) |
| • Kostam (<i>Costus speciosus</i> (Koenig ex Retz) J.E.Smith | - 1 Palam (35gms) |
| • Sottruppu (Sodium chloride) | - 1 Palam (35 gms) |
| • Indhuppu (Sodium chloride impura rock salt) | - 1 Palam (35 gms) |
| • Perungayam (<i>ferula asafoetida</i> ,Linn.) | - ¼ Palam (8.75 gms) |
| • Vasambu (<i>Acorus calamus</i> ,Linn.) | -1/4Palam (8.75 gms) |
| • Kadugu (<i>Brassica juncea</i> ,Czern&Coss.) | - 1/2Palam (17.5 gms) |
| • Sarkarai (white sugar candy) | - 9 Palam (315 gms) |

Purification of Raw Drugs:

Kodiveli:

Inner nerve of the bark is removed and the bark alone is powdered. The above said powder is taken in a broad mouthed vessel containing cow's milk, closed with another broad mouthed vessel, subjected to heat for three hours. The resultant powder is again finely powdered in a Kalvam and then taken.

Chukku:

Soak in lime stone water for a period of time and dry it in shade then peel off the outer layer.

Milagu:

Soak in butter milk for a period of 1 Saamam (3 hours) then allow it to dry.

Thippili:

Soak in juice of Lime for a period of time then allow it to dry.

Oomam:

Soak in lime stone water then dry it.

Siruthekkku:

Outer layer is peeled off made into small pieces then dried in sunlight.

Yaanaai Thippili:

Soak in kaadi for a period of 1 saamam (3 hours) then dry it in sunlight.

Kostum:

Remove Unwanted dust and stones dry it in sunlight.

Sottruppu:

Soak in butter milk and then dry it in sunlight.

Indhuppu:

Soak in kaadi for a period of 3 days then dry it in sunlight.

Perungayam:

Fried in an mud vessel.

Vasambu:

Exposed to flame until it becomes coal.

Kadugu:

Remove unwanted dust and stones, dry it for 2 days in sunlight.

Method of preparation:

The purified kodiveli, thirikadugu, oomam, sirutheku, yaanaithippili, kostam were fried still it becomes golden colour then they were pulverized and sieved by a cloth.

The sottruppu and indhuppu were made it into powdered. Then the purified perungayam and vasambu were also powdered separately.

The above powders were mixed altogether along with Kadugu powder and equal amount of sugar is added to the total amount of all the above mentioned drugs and mixed throughly. Then it was stored in a clean container.

PREPARATION OF KETHAGHI THAILAM (EXTERNAL MEDICINE)

[Sarabendirar Vaidhiya muraikal Vatharoga chikkichai, Page - 49,50]

Ingredients:

Part 1

- Thazhaivizhudhu saaru - 4 Naazhi (21.2 ltrs)
- Gingely oil - 1 Padi (1.4 ltrs)
- Cow's milk - 1 Padi (1.4 ltrs)

Part 2

- Lavangam (Syzygium aromaticum(Linn)Merrill & Perry.)- 1/4 balam (8.75gms)
- Kostam(costus speciosus(Koenig ex Retz)J.E.Smith. - 1/4 balam (8.75gms)
- Vilamicham ver (Plectranthus vettiveroides(Jacob Singh & Sharma)
- 1/4palam (8.75 gms)
- Koraikizhanghu(Cyperus rotundus,Linn.) -1/4 balam (8.75 gms)
- Adhimadhuram(Glycyrrhiza glabra,Linn.) -1/4 balam (8.75gms)
- Santalum album.Linn) -1/4 palam (8.75 gms)
- Elam(Elettaria cardamomum,Maton.) -1/4 balam (8.75 gms)
- Vettiver(Vetiveria zizanioides.(Linn) Nash) -1/4 balam (8.75gms)
- Devadharum(Cedrus deodara(Roxb.ex D.Don)G.Don. -1/4 balam (8.75 gms)
- Thalispathiri(Abies spectabilis(D.Don) Mirb. -1/4 balam (8.75 gms)

Method of preparation:

The Part 2 drugs were pulverized by electric grinder, this powder was ground along with milk until it becomes a paste form (Karkam), The karkam was mixed with Thazhaivizhuthu saaru and Gingely oil, and subjected to heat until the sediments becomes sand consistency. After the the oil was allowed to come to normal temperature then filtered and stored in a clean container.

PROPERTIES OF TRIAL DRUGS

KODIVELI: கொடிவேலி

Botanical name	:	Plumbagozeylanica
English name	:	Ceylon, leadwort
Family	:	Plumbaginaceae

Organoleptic character:

Suvai	:	Kaarppu
Thanmai	:	Veppam
Pirivu	:	Kaarppu

General properties

“கட்டிவிர ணங்கிரந்தி கால்கள் அரையாப்புக்
கட்டிச்சூ லைவீக்கங் காழ்மூலம் - முட்டிரத்தக்
கட்டுநீ ரேற்ற கனத்த பெருவயிறும்
அட்டுங் கொடிவேலி யாம்”.

-அகத்தியர் குணவாகடம்

இதனால்,கட்டி,புண்,கழலை,வளிநோய்,அரையாப்புக்கட்டி,சோபை,மூலரோகம்உதி
ரக்கட்டு, நீரேற்றம், பெருவயிறு இவை போம்.

Chemical Constituents:

Root contains an acrid crystalline principle called 'plumbagin' in the form of yellow needles. It is present in all varieties of plumbago to a maximum of about 0.91%.

Root bark – Free glucose, fructose, enzymes – Protease and Invertase.

- *The Wealth of India, Council of Scientific and Research,*

Actions:

Alterative, Stimulant, Appetizer, Laxative.

Uses:

Root is useful in dyspepsia, piles, anasarca, diarrhea, rheumatism, skin diseases and diseases of the spleen.

-*Databases on Medicinal Plants used in Ayurvedha, Vol - I*

YAANAITHIPPILI: யானைதிப்பிலி

Botanical Name : Scindapsus officinalis, Schott

Family : Aracea

Eng. name : Vietnamese

Parts used : Dried mature inflorescence

Organoleptic Characters

Taste : kaarppu.

Potency : Veppam.

Pirivu : Kaarppu.

Actions :

Stomachic, Stimulant, Anthelmintic, Sudorific(diaphoretic)

General properties:

மாதமறுந் தீபனமா மாறாக் கபங்கரப்பான்

ஓதுகுரற் கம்மலியை யோடுங்காண்-பூதலத்திற்

சோனையைநேர் நாசினீர் தோலாச்சு வாசமும்போம்

யானையினற் றிப்பலிய தால்.

-அகத்தியர் குணவாகடம்

KOSTAM: கோஷ்டம்

Botanical Name : Costus speciosus,(Koeng ex Retz.)

Family : Zinziberaceae.

Eng.name : Costus root.

Parts used : Root tuber.

Organoleptic Charecters:

Taste : Kaippu, Viruviruppu.

Potency : Veppam.

Pirivu : Kaarppu.

Therapeutic Actions

Anti- inflammatory, Spasmolytic, Muscle relaxant, Tonic, Stimulant.

General properties

நாட்டிலுறு வெட்டை நடுக்கம் எனுனோய்கள்
கோட்டமெனச் சொன்னால் குலையுங்காண்-கூட்டிற்
சுரதோடந் தொண்டைநோய் தோலாத பித்தம்
பரதேசம் போமெ பறந்து.

-அகத்தியர் குணவாகடம்

It is indicated for fever, throat disorders and pitha diseases.

CHUKKU: சுக்கு

Botanical Name : Zingiberofficinale

English Name : Dried ginger

Family : Zingiberaceae

Organoleptic Character:

Suvai : Kaarppu

Thanmai : Veppam

Pirivu : Kaarppu

General properties:

“சூலைமந்தம் நெஞ்செரிப்பு தோடமேப் பம்மழலை
மூலம்இரைப்பிருமல்மூக்குநீர்- வாலகப
தோடமதிசாரந் தொடர்வாத குன்மநீர்த்
தோடம்ஆமம்போக்குஞ்சுக்கு”.

-அகத்தியர்குணவாகடம்

Chemical Constituents:

It contains camphene, phellandrene, zingiberine, cineol and borneol, gingerol a yellow pungent body, an oleoresin-gingerin the active principle, other resins and starch. B – sesquiphellandrene, gingerdiols, gingerdiacetates are also present

- *Indian Herbal Pharmacopoeia*

Actions:

Aromatic, Carminative, Stimulant, Stomachic, Digestive.

Pharmacological Activities:

Inhibition of Prostaglandin synthesis by the constituents of Ginger is thought to play a role in the Anti – inflammatory activity

- *Indian Herbal Pharmacopoeia P – 487*

MILAGU: மிளகு

Botanical Name	:	Piper nigrum
English Name	:	Black pepper
Family	:	Piperaceae

Organoleptic character:

Suvai	:	Kaippu, kaarppu
Thanmai	:	Veppam
Pirivu	:	Kaarppu

General properties:

“சீதசுரம் பாண்டு சிலேத்மங் கிராணிகுன்மம்
வாதம் அருசிபித்தம் மாமூலம்-ஓதுசன்னி
யாசம்பஸ் மாரம் அடன்மேகம் காசமிவை
நாசங் கறி மிளகினால்”.

-அகத்தியர் குணவாகடம்

Chemical constituents:

A volatile alkaloid piperine or pipirine 5-9%, piperidine or piperidin 5%, abalsamic volatile essential 1-2%, fat7%. Mesocarp contains chavicin, a balsamic volatile oil, starch, gum. Piperine, Piperettine, Piperanine, PipericideSarmentine, Eugenol.

- *Indian Herbal Pharmacopoeia, P - 321*

Actions:

Carminative, Pungent, Antiperiodic, Analgesic, Anti inflammatory, Antioxidant Cyclooxygenase inhibitory activity

- *Indian Herbal Pharmacopoeia, P – 324 Database, Vol – 190*

THIPPILI: திப்பிலி

Botanical Name	:	Piper longum
Synonym	:	Charicaroxburgii
Family	:	Piperaceae

Organoleptic Character:

Suvai	:	Kaarppu
Thanmai	:	Veppam
Pirivu	:	Kaarppu

General properties:

“ஆசனநோய் தொண்டைநோய் ஆவரண பித்தமுதல்
நாசிவிழி காதிவைநோய் நாட்புழுநோய் -வீசிடுவி
யங்கலாஞ்ச னஞ்சிதையும் அம்பாய் அழிவிந்தும்
பொங்கலாஞ்ச நங்கையர்கோட்போல்”.

- தேரன் வெண்பா

Chemical Constituents:

Piperine(4 – 5%), volatile oil, piperlonguminine, piperlartine, sesamin, terpenoids, resin, piperundecalidine.

- *Indian Herbal Pharmacopoeia revised – 2002, P – 310,311*

Actions:

Stimulant, Carminative, Alterative.

Pharmacological Activities:

Anti Inflammatory, anti spasmodic, anti bacterial, immunostimulatory

- *Database Vol – III P – 475, Central council for research in Ayurvedha and Siddha*

PERUNGAYAM: பெருங்காயம்

Botanical name : Ferula asafoetida

English name : Asafoetida

Synonyms : Ferula foetida

Family : Umbelliferae

Organoleptic character:

Suvai : Kaippu, karakarappu

Thanmai : Veppam

Pirivu : Kaarppu

General properties:

“தந்தவே தந்த மூலத்தெழும்பிணி
சருவகாளம்விருச்சிகங்கீடம்மா
மந்தம்வாதம் உதாவர்த்தம் அல்குல்நோய்
மார்பணங்கட்ட குன்மம் மகோதரம்
உந்துகெர்ப்பத்தின் வித்திரஞ்சுலைச்
உதிரப்பூச்சி சிலேத்துமத்துறும்வலி
வந்தமெய்க்கடுப் போடிவைமுற்றுமே
மாநாறுநற் காயங்கிடைக்கினே”.

- தேரன் குணவாகடம்

இதனால் பல்நோய்கள், பாம்பு நஞ்சுகள், மந்தம், ஏப்பம், குன்மம், பெருவயிறு, சூதகச்சூலை, என்னும் இவைகள் போம்.

Chemical constituents:

Organic sulphur compound, volatile oil containing essential oil of garlic- allyl, allylpersulphide and two terpenes, ferulic acid, ester of asaresino-tannol, alsomali, acetic, formic & valerainic acids.

Actions:

Stimulant, Carminative, Anti spasmodic, Anthelmintic, Emmenagogue, Expectorant, Nervine tonic

- Indian Medicinal Plants Vol – III, Orient Longman, P – 13

Uses:

It is useful as anthelmintic for round worms in children, typhoid fever, cholera, convulsions and flatulent diseases of children.

VASAMBU: வசம்பு

Botanical name : Acorus calamus

English name : Sweet flag

Family : Aracacea

Organoleptic character:

Suvai : karappu

Thanmai : Veppam

Pirivu : Kaarppu

General properties:

பாம்பாதி நஞ்சற் பதப்ப்புண் வலிவிடபாகங் குன்மம்
சும்பா ரிரத்தபித் தம்முக நாற்றம்வன்குலைசன்னி
வீம்பாம்பை காசம் லபிலீகஞ் சிலிபதம் வீறிருமல்
தாம்பாங் கிருமி யிவையேகு மாசிவ சம்பினையே

- தேரையர் குணவாகடம்

இதனால் எல்லா நஞ்சுகள்புண் வகைகள் ஐவகைவலி குன்மம் இரத்தபித்தம் வாய்நாற்றம் சூலை முப்பிணி இருமல் ஈரல் நோய்கள் யானைக்கால் நாடாப்புழு ஆகியவை போம்

Chemical constituents:

Asarone, calamenol, calamene, eugenol, methyl eugenol, pinene, camphene, calamol, azulene

- Database Vol – I, P - 471

Actions:

Stimulant, Stomachic, Antiperiodic, Carminative, Nauseant, Emetic, Disinfectant, Germicide, Spasmolytic, Hypothermic, Anticonvulsant

-Database Vol – I, P - 471

Uses:

Plant causes sedative effect. It also reduces pain (Analgesic effect)

Actions:

Anodyne, Aphrodisiac, Aromatic, Febrifuge, Sedative, Stimulant.

Phytochemicals :

Glucoride acorin renders the root aromatic. Acorenone, isoshyobunine, b-asarone, calamendiol, a-selinene, a-calacorene, calamusenone, camphone and shyobunone are the constituents of the essential oil of sweet flag.

OMAM : ஒமம்

Botanical name	: Carum copticum
Synonyms	: Tachyspermam ammi
English name	: Bishops weed
Family	: Solanaceae

Organoleptic character:

Suvai	: Kaarppu
Thanmai	: Veppam
Pirivu	: Kaarppu

General properties:

“சீதசுரங் காசஞ் செரியாமந் தம்பொருமல்
பேதியிரைச் சல்கடுப்பு பேராமம் ஓதிருமல்
பல்லொடுபல்மூலம்பசுமிவைநோ யென்செயுமோ
சொல்லொடு போம் ஓமமெனச் சொல் ”.

-அகத்தியர் குணவாகடம்

இதனால், சீதசுரம், இருமல், செரியாமாந்தம், பொருமல், கழிச்சல், இரைப்பு, பல் நோய், இவைகள் போம்.

Chemical Constituents:

The chemical composition of essential oil obtained from dry fruits of carum. Thymol (35-60), further more, a-pinene, p-cymene, limonene and a-terpinene have been found. Camphene, Carvacrol, cymene, dipentene, myrcene, phenols, terpinene, thymene, thymol, linoleic acid.

- Database, Vol – VII, P – 498

Actions:

Carminative, Stimulant, Stomachic, Anti spasmodic, Tonic, Antimicrobial, Diuretic, Antispasmodic.

Uses:

A paste of the crushed fruit is applied externally for relieving colic pains

- Database, Vol – VII, P – 497 - 498

KADUGU : கடுகு

Botanical name :Brassica juncea

English name :Mustard

Organoleptic character:

Suvai :Kaarppu

Thanmai :Veppam

Pirivu :Kaarppu

General properties:

இடிகாச நாசிக்கு ரீளைகபம் பித்தங்
 கடிவாத சீதங் கடுப்போ டுடலிற்
 படுகோட்டு நோயென்னும்பங்கிவைக ளைப்புண்
 கடுகோட்டு மேன்மருந்து காண்
 மந்தமயக்கம் வாதம் வாய்நீர்ச் சுழற்றலறு
 முந்துசுகப்பிரச வங்களுண்டா மிந்துநுதன்
 மானே கிராணிகுன்ம மாறுமுத் தோடமும்போம்
 தானே கடுகிற்குத் தான்.

-அகத்தியர்குணவாகடம்

இது தலையிடிப்பைத் தரக்கூடிய இருமல், மூக்குநீர் வடிதல், கோழை, வெறி, குடைச்சல், வயிற்றுவலி முப்பிணி, கீல்வாயு, இவைகளை நீக்கும்.

Chemical constituents:

Glucosides - Sinalbin, Sinargin

Actions:

Emetic, Stimulant, Rubefacient, Vesicant, Digestive, Diuretic.

Uses:

Powdered mustard mixed with hot water can be given for Hiccough. It is mixed with honey and can be given for Bronchial Asthma..

SIRUTHEKKU: சிறுதேக்கு

Botanical Name : Clerodendrum serratum(Linn)Moon.

Family : Verbenaceae

Eng.name : Beetle killer

Parts used : Leaf, Root.

Organoleptic Charecters

Taste : kaipu, thavarppu.

Potency : Veppam.

Pirivu : Kaarppu.

Actions

Stimulant, Sedative

General properties

கண்டுபா ரங்கியெனுஞ் சிறுதேக குண்டேல்,
காலெங்கே பித்தமெங்கெ கபந்தா னெங்கே
தொண்டுதொட்டுத் தொடர்சுவாச காச மெங்கெ
சுரமெங்கே வெறீயெங்கே தொனிநோ யெங்கே
மிண்டுபுரி பீநசநீர்க் கோவை யெங்கெ
வெளநீருண் ணீரெங்கே விறற்கா லெங்கெ
அண்டுபடாச் சீதசுரங் கடுப்பு மெங்கே
யழலையக நோயெங்கே யறைகு வீரே!

-தேரன் குணவாகடம்

SOTRUPPU சோற்றுப்பு

Eng.name : Sodium Chloride

Organoleptic Charecters

Taste : Uvarppu
Potency : Veppam.
Pirivu : Kaarppu.

Actions

Stomachic, Laxative, Emetic, Anthelmintic, Antiperiodic.

General properties:

அளத்திலுறை நல்லுப் பனல்வாதம் மாற்றுங்
களத்துநோய் தன்னைக் களையுங்-கிளைத்தகப
ஆசுடைய வல்லைநோய் அஷ்டகுன்ம முமெபோக்குங்
காசினியுள் மாதே கழறு.

-அகத்தியர் குணவாகடம்

INDHUPPU: இந்துப்பு

Eng.name : Sodium Chloride Impura

Organoleptic Charecters

Taste : Uvarppu

Potency : Veppam.

Pirivu : Kaarppu.

Actions

Stomachic, Diuretic, Carminative.

General properties

அட்டகுன்ம மந்தம் அசிர்கரஞ்சூர் சீதபித்தந்
துட்டவையம் நாடிப்புண் டோடங்கள்-கெட்டமலக்
கட்டுவிட விந்தையக் காமியனோய் வன்கரப்பான்
விட்டுவிட விந்துப்பை விள்

SARKARAI: சர்க்கரை

Botanical Name : Saccharum officinarum.Linn

Family : Gramineae

Eng.name : Sugarcane,noble cane

Parts used : Root

Organoleptic Charecters

Taste : Inippu

Potency : Seetham.

Pirivu : Inippu

Therapeautic Actions

Cooling, Antiseptic, Diuretic, Nutrient, Laxative, Demulcent.

General proterties:

சீனிச் சர்க்கரைக்குத் தீராத வன்சுரமுங்
 கூனிக்கும் வாதத்தின் கூட்டுறவும்-ஏனிற்கும்
 வாந்தி யொடுகிருமி மாறாத விக்கலுமே
 போந்திசையை விட்டுப் புரண்டு.

ILAVANGAM இலவங்கம்

Botanical name : Syzygiumaromaticum

Family : Myrtaceae

Organoleptic character:

Suvai : karappu

Thanmai : Veppam

Pirivu : Kaarppu

General properties:

பித்த மயக்கம் பேதியொடு வாந்தியும்போம்
 சுத்தவிரத் தக்கடுப்புந் தோன்றுமோ மெத்த
 இலவங்கங் கொண்டவருக் கேற் சுகமாகும்
 மலமங்கே கட்டுமெனவாழ்த்து

இதுமயக்கம் பேதி வாந்தி குருதிகழிச்சல் நாட்பட்ட கழிச்சல் எருவாய்கடுப்பி
 செவிநோய் சிவந்தமச்சம் கறுத்த மச்சம் கண்ணில் பூ படைகள் ஆகியவற்றை நீக்கும்.

Chemical constituents:

Volatile oil, eugenol acetate, caryophyllene, humulene, acetophenone, cardanol,
 hexanol, muurolene, palustrol.

-Indian Herbal Pharmacopoeia, P - 424

Actions:

Stimulant, Stomachic, Antiperiodic, Carminative, Nauseant, Emetic, Disinfectant
 Germicide, Antioxidant, Anti convulsant, Radical scavenging activity, Rejuvenating.

-Database, Vol – IV, P – 359 - 360

Uses:

Externally the oil is used as an application for rheumatic pains, headache,
 neuralgia.

- Database, Vol – IV, P – 359 - 360

KORAIKIZHANGU: கோரைக் கிழங்கு

Botanical Name : Cyperus rotundus, Linn

Family : Cyperaceae

Eng.name : Nut grass

Parts used : Root

Organoleptic Characters

Taste : Kaarppu.

Potency : Veppam.

Pirivu : Kaarppu.

Therapeutic Actions

Astringent, Diuretic, Diaphoretic, Demulcent, Stimulant, Tonic, Emmenagogue
Vermifuge.

General properties

சீத சுரந்தீர்க்கும் வையகத்தில்-வேதைசெய்ய

வாத சுரந்தணிக்கும் வையகத்தில்-வெதைசெய்ய

வந்த பிணியையெல்லாம் வாட்டுமுத் தக்காசு

கொந்துலவும் வர்குழலே! கூறு.

அதிசாரம் பித்தம் அனற்றாகம் ஐயங்

குதிவாதஞ் சோபங் கொடிய-முதிர்வாந்தி

யாரைத் தொடர்ந்தாலும் அவ்வவர்க்கர் லாங்குளத்துக்

கோரைக் கிழங்கைக் கொடு.

-அகத்தியர்குணவாகடம்

VILAAMICHAM VER: விலா மிச்சுவேர்

Botanical Name : Plectranthus vettiveroides (Jacob)singh&sharma

Family : Lamiaceae

Eng.name : White cus grass

Parts used : Root

Organoleptic Charecters

Taste	: kaipu
Potency	: Seetham
Pirivu	: Inippu

Actions

Refrigerant, Antipittha.

General properties:

மேகம் விழியெரிச்சல் வீறிரத்த பித்தஅமொடு
தாக்க்மத மூர்ச்சைபித்தந் தந்மயக்கம்-சோகஞ்
சிரநோய் இவையேகுஞ் செலுபூவிலா மிச்சக்
கெரிசுரமும் இல்லை யிசை.

DEVATHAARU: தேவதாரு

Botanical Name : Cedrus deodara, (Roxb.ex.D.Don)

Family : Pinaceae.

Eng.name : Himalayan cedar.

Parts used : Bark.

Organoleptic Charecters

Taste	: Thuvarppu.
Potency	: Veppam.
Pirivu	: Kaarppu.

Actions

Astringent, Febrifuge, Spasmolytic, Anti – inflammatory, Analgesic.

SANTHANAM: சந்தனம்

Botanical Name : Sandalum album.Linn

Family : Santalaceae

Eng.name : Sandalwood

Parts used : Bark.

Organoleptic Charecters

Taste	: Kaippu, Thuvarppu.
Potency	: Thatpam, Veppam.
Pirivu	: Inippu

Actions

Astringent, Diuretic, Diaphoretic, Demulcent, Stimulant, Disinfectant,

General properties

மும்மையெனச் சொல்வார் முருகுசந்தப் பேதமவை
செம்மை மஞ்சள் வெண்மையெனத் தேர்முறையே-நன்மைதரும்
உத்தமும் மத்திமமும் தம முமாகும்
தத்தை மொழியணங்கே!சாற்று.

-அகத்தியர்குணவாகடம்

VETTIVER: வெட்டிவேர்

Botanical Name : Vetiveria zizanioides

Family : Poaceae

Eng.name : Cuscus grass,vetiver,khas-khas,khus-khus

Parts used : Root

Organoleptic Charecters

Taste	: Inippu
Potency	: Thatpam.
Pirivu	: Inippu

Actions

Diuretic, Diaphoretic, Antispasmodic, Stimulant, Tonic, Emmenagogue, Vermifuge.

General properties

பித்தவி தாகம் சசிகா மிலங்கறைப் பித்தமனற்
றத்திடு குட்டஞ் சிரநோய் களமடி தாதுனட்ட
மத்திடு னற்புண் டனப்புண்வன் மூர்ச்சை வரிவிழிநோய்
வித்திர மேகத்தின் கட்டியும் போம் வெட்டி வேரினுக்கே.

-அகத்தியர்குணவாகடம்

ELAM ஏலம்

Botanical Name : Electtaria cardamomum,Maton.

Family : Zingiberaceae

Eng.name : Cardamomum seeds

Parts used : Seeds

Organoleptic Charecters

Taste : kaarppu.

Potency : Veppam.

Pirivu : Kaarppu.

Actions:

Carminative, Stomachic, Stimulant.

General properties

தொண்டை வாய்கவுள் தாலுகு தங்களில்
தோன்றும் நோயதி சாரம்பன் மேகத்தால்
உண்டை போல் எழுங் கட்டி கிரிச்சரம்
உழலை வாந்தி சிலந்தி விகுஞ்சுரம்
பண்டை வெக்கை விதாகநோய் காசமும்
பாழுஞ் சோமப் பிணிவிந்து நட்டமும்
அண்டை யீளைவன் பித்தம் இவைக்கெல்லாம்
ஆல மாங்கமழ் ஏல மருந்ததே...

-தேரன் குணவாகடம்

It is good for fever, throat disorders and pitha diseases.

ATHIMATHURAM: அதிமதுரம்

Botanical Name : Glycyrrhiza glabra

Family : Fabaceae

Eng.name : Jequity;Indian or Jamaica liquorice

Parts used : Root .

Organoleptic Charecters

Leaf:

Taste : Inippu, Kaippu.

Potency : Veppam.

Pirivu : Kaarppu.

Root:

Taste : Inippu.

Potency : Seetham.

Pirivu :Inippu .

Actions

Emollient, Laxative, Demulcent, Tonic,Mild Expectorant.

General properties

கத்தியரி முப்பிணியால் வருபுண் தாகங்

கண்ணோய்உன் மாதம்விக்கல் வலிவெண் குட்டம்

பித்தமெலும் புருக்கி கிரிச்சரம் ஆவர்த்த

பித்தமத மூர்ச்சை விட பாகம் வெப்பந்

தத்திவரு வாதசோணிதங்கா மாலை

சருவவிடங் காமியநோய் தாது நட்டங்

குத்திருமல் ஆசியங்கம் இதழ்நோய் இந்து

குயப்புணும் போம் மதுகமெனக் கூறுங்காலே.

- தேரன் குணவாகடம்

THAALISABATHIRI: தாளிசபத்திரி

Botanical Name : Abies spectabilis(D.Don)Mirb.

Family : Taxaceae

Eng. Name : Flaurtia calaphracta,Himalayan Yew

Parts used : Leef.

Organoleptic Charcters

Taste : kaarppu.

Potency : Veppam.

Pirivu : Kaarppu.

Actions

Carminative, Stomachic, Expectorant, Tonic.

General properties

நாசி களப்பிணிகள் நாட்பட்ட-காசஞ்சு

வாசம் அருசி வனமங்கால் -வீசிவரு

மேகமந்தம் அத்திசுரம் விட்டேகுந் தாளிச்சத்தால்

ஆகுஞ் சுகப்பிரச வம்.

- அகத்தியர்குணவாகடம்

THAAZHAI: தாழை

Botanical Name : Pandanus odoratissimus.Linn f

Family : Pandanaceae

Eng.name : Fragrant Screw-pine

Parts used : Leef,Flower,Jelly

Organoleptic Charecters

Taste : Thuvarppu.

Potency : Thatpam.

Pirivu : Inippu

Therapeutic Actions

- Refrigerent
- Antispasmodic
- Diaphoretic

General properties

மடிச்சோற்றான் மங்கையர்க்கு மாதாந்தப் பூப்பாம்
வெடிச்சபூநற் பசியை விளைக்குந்-தடித்தமுலை
சுக்கிலத்த நெய்யைத் துலவிக்குஞ் சோளையெனும்
அக்குலத்தை நீக்கும் அறி.

-அகத்தியர்குணவாகடம்

PASUMPAAL: பசும்பால்

Chemical constituents:

Carbohydrate(lactose), literature related to milk composition, fat, protein, vitamins, and minerals

General properties:

பாலர்கிழவர் பழஞ்சுரத்தோர் புண்ணாளி
குலையர் மேகத்தோர் துர்பலத்தோர் ஏலுமிவர்
எல்லார்க்கு மாகும் இளைத்தவர்க்குஞ் சாதகமாய்
நல்லாய் பசுவின்பால் நாட்டு

NALLENNAI: நல்லெண்ணெய்

Botanical name	:	Sesamum indicum, Linn.
English Name	:	Sesame
Family	:	Papillonaceae.
Parts used	:	Seed Oil.

Organoleptic Characters

Taste	:	Acrid
Potency	:	Veppam
Pirivu	:	Acrid

Actions:

Demulcent, Emollient, Nutritive and Anti-inflammatory Anti-inflammatory activity is due to the presence of linoleic acid in the seed oil

General properties:

“புத்திநயனங் குளிர்ச்சி பூரிப்பு மெய்புளகஞ்
சத்துவங் கந்தி தனியிளமை- மெத்தவுண்டாங்
கண்ணோய் செவி நோய் கபால்வழல் காசநோய்
புண்ணோய்போ மெண்ணெய்யாற் போற்று”

Oil extracted from sesame seed is used as a coolant and to cure skin ailments, eye diseases, ear ache, ulcers etc.

The oil from the nutrient rich seed is popular in alternative medicine Ancient Indian medical system perceives sesame oil to pacify stress related symptoms

Sesame oil is a source of vitamin E. Vitamin E is an anti-oxidant and is said to lower cholesterol.

As with most plant based condiments, sesame oil contains magnesium, copper, calcium, iron, zinc, and vitamin B6. Copper provides relief from rheumatoid arthritis. Magnesium supports vascular and respiratory health. Calcium helps prevent colon cancer, osteoporosis and migraine. Zinc promotes bone health.

INGREDIENTS OF INTERNAL MEDICINE (AKKINI CHOORANAM)

THIPPILI-PIPER LONGAM



VASAMBU-ACORUS CALAMUS



PERUNGAAYAM-FERULA ASAFOETIDA



OOMAM-CARUM COPTICUM



KOSHTAM-COSTUS SPECIOSUS



CHUKKU-ZINGIBER OFFICINALE



INDHUPPU-ROCK SALT



KADUGU-BRASSICA JUNCEA



SOTTRUPPU-SODIUM CHLORIDE



SARKARAI- SACCHARUM OFFICINARUM



SIRUTEKKU-CLERODENDRUM SERRATUM



YAANAI THIPPILI-SCINDAPSUS OFFICINALIS



MILAGU-PIPER NIGRAM



INGREDIENTS OF EXTERNAL MEDICINE (KETHAGHI THAILAM)

DEVATHAARU-CEDRUS DEODARA



AALAM-ELECTTARIA CARDAMOMUM



THAAZHAI-PANDANUS ODORATISSIMUS



KORAIKIZHANGU-CYPERUS ROTUNDUS



ELAVANGAM-SYZYGIUM AROMATICUM



ATHIMATHURAM-GLYCYRRHIZA GLABRA



PASUMPAAL-COW'S MILK



NALLENNEI-GINGELLY OIL



VILAMICHAM VER-PLECTRANTHUS VETTIVEROIDES



VETTIVER-VETIVERIA ZIZANIOIDES



SANTHANAM-SANTALUM ALBUM



THAALISAPATHRI-ABIES SPECTABILIS



TRIAL DRUGS

AKKINI CHOORANAM (INTERNAL)



KETHAGHI THAILAM(EXTERNAL)



VARMAM

VARMAM

The points where life force resides and flows in the human body are known as varmam. Varmam also means the points where breathing energy resides in the body.

-Vaagada Nithaanam Verse- 31

“வாசி தட்டும் தலமெல்லாம் வர்மம்.”

- Varma Odivu Murivu Sara Soothiram-1200

Varmam can be defined as the flow of life force in relationship with breathing.

“செப்புறு தசைகளென்பு சிறு பெரு நரம்புசந்து
தப்புறு நாடியாறும் தங்குமிடம் வன்மமாமே.”

- Varma Vidhi

The vital points (varmams) are located in the junction of nerves, joints, bones, muscles, ligaments and internal organs.

Varmam is otherwise known as, Vaasi, Puravi, Kaalam, Uyir, Mayakkam, Pranan, Kalai, Suvaasam, Saram, Yogam, Param and Sivam.

-Vaagada Nithaanam

History of Varmam:

"தேறவே சிவன் உமைக்குச் சொன்ன போதம்
ஆறாமல் நான் அறிந்து இந்நூல் சொன்னேன்."

- Varma Odivu Murivu Sara Soothiram-1500, Song-833

Lord Siva taught varmam to his wife Paarvathi; later Paarvathi taught varmam to their son Lord Murugan. Lord Murugan then taught to the Siddhar Agasthiyar. Agasthiyar later gave a written form that reached the people.

“பண்பாக அகத்தியனார் ராமதேவர்
பணிவாக போகமுனிவர் தானும்
பருவமாய் மனிதர்கள் பிழைக்கவென்று
பாங்காகச் சொன்னதொரு நூல்கள் கண்டு
பார்த்திடவே சுருக்கமாய் பிறித்துச் சொன்னேன்.”

-Kai Maathirai Thiravukoll

Varmam has grown under three independent schools of thoughts, mainly governed by three ancient siddhar's namely Akasthiyar, Bohar and Rama Devar. The term varmam appears in the Rigveda where Indran hits Vritran in a varmam with his vajram

Classification of Varmam:

There are 108 varmam or varma points in our body.

1. According to the text Varma Odivu Murivu Soothiram,

1. Padu varmam - 12
2. Thodu varmam - 96

Injury or any hit in the Paduvarmam points may lead to lead to severe deformities or even death also. The Thodu varmam points are mostly used in therapeutic purposes.

2. According to the text Varma Kannaadi

Human body is divided into five divisions, they are:

S.no	Area	Number of points
1	From top of the head to neck	25
2	From neck to naeval point	45
3	From naeval point to anus	9
4	Both hands	14
5	Both legs	15
Total		108

3. According to the text Varma Soothiram,

Vatha varmam	-	64
Pittha varmam	-	24
Kaba varmam	-	06
Ul varmam	-	06
Thattu varmam	-	08
Total	-	108

The main causes for impact to nerve centre (Varmam)

“கேளப்பா தடியடிகள் படுத லாலும்
கெடியான எறிவிசைகள் கொள்ள லாலும்
வாளப்பா கட்டைகுற்றி தட்ட லாலும்
மாற்றானின் கைப்பிடிகள் படுதலாலும்
வேளப்பா ஆகசா மதிலே நின்று
மெய்மறந்து கைமறந்து விழுத லாலும்
தாளப்பா பற்பலவாம் விதத்தி னாலே
சங்கையில்லாக் காலமது சாருந் தானே.

-Odivu Murivu Saari-1200

- Hit sustained by a thick and rough stick.
- Stone thrown at a high speed from a sling.
- Fall from a tree or height.
- Fall while running.
- By leaping.
- By fainting

Varma Kalai is said to link up the material body with the spiritual ‘life’ or Soul, through the mediums of panchabhootha or five elements activating the movement of “life” within the body carried through the ten vayus. This is the fundamental principle of Yogam and Samadhi.

A human body requires thasavaayus (10 vaayus) namely, Pranan, Abanan, Udanan, Viyanan, Samanan, Naagan, Koorman, Kirukaran, Devadatthan and Dananjayan, for its proper functioning each vaayu has its own function to keep the body healthy and disease free.

Pranavaayu controls the function of all other vayus. It flows across the six aatharas, the three thasanaadis (Idakalai, Pingalai, Suzhimunai) from vertex to sole. The entire pathway of the pranavaayu consists of junctions or places where it stays temporarily. These junctions are called Varmam.

When the body gets injured on a particular part due to some trauma leading to shock or fracture, the pranan changes its path and gets scattered from its original place to any other area. During this time the person may experience excruciating pain which may also refer to other area leading to syncope, and even coma. These sorts of injury if not treated within a specific period may lead to death or fatal conditions.

Varmam treatment

Varmam therapy is a systematic study of vital points (varmam) on human body and also on animal bodies.

“உள்ளபடி நூற்றெட்டு தலம் சாவாகும்
உணர்வாகி அத்தலங்கள் உயிரு மாகும்
கள்ளமுற்ற அத்தலங்கள் பிணியு மாகும்
களங்கமற்றால் அத்தலங்கள் சுகமே காணும்
உள்ளுணர்வாய் அத்தலங்கள் வாசி யேற்ற
உற்றதினால் அத்தலங்கள் உறுதி சேரும்
புள்ளடிபோல் அத்தலங்கள் கண்ட வர்கள்
புகலார்கள் எல்லோரும் புவியினுள் ளோர்க்கே.”

-Varma Odivu Murivu Sara Soothiram-1200

It is also called the art of killing and the art of healing. Right or wrong vibration of the vital points will either promote or impair health .Its aim is to produce healthy and stable individuals.

Varma therapy can be used for Low back ache, Spinal problems, Head ache and migraine, Arthritis, Frozen shoulder, Neuromuscular problems. It is a safe and effective system of healing and for rejuvenation. It provides a complete natural healing to rejuvenate the toxic imbalances.

In this present study, The 40 cases of Thandaga vatham were diagnosed clinically and 20 cases of them were admitted in Ayothidoss Pandithar Hospital attached to National Institute of siddha. Among them 10 Inpatients were treated by Varmam treatment along with the trial drugs. The remaining 10 IP patients received only trial medicines.

The following Varmam points were manipulated in this study:

- Komberi
- Viruthi
- Ullankai vellai
- Ullankaal vellai
- Nangana poottu
- kutri

KOMBERI VARMAM

Synonyms:

Thumbikaala varmam - Varma Noolavu Nool

Komberi varmam - Varma Soothiram

Location:

“குதிரைமுக வர்மத்திலிருந்து (5 விரலுக்கு) கீழ்நோக்கி
அளக்க தும்பிக்கால வர்மம் அறியலாம்.”

-Varma Noolalavu Nool

“.....குதிரை முகவர்மம்
கண்டாயே அங்குலந்தான் நாலின் கீழே
கடந்திட்டால் கொம்பேறி வர்மமாகும்.”
“ஏகும் முடவு இறைரண்டில் தும்பிகாலம்.”

-Adi Varma Sootcham-500

“காலிலே குதிரைமுகக் காலத்தின் கீழ் அங்குலம்
நாலிலே நவிலுவோம் கொம்பெறி வர்மத்தின் தானம்.”

-Varma Laada Soothiram-300

Komberi varmam is located 5 fingers below from the Kuthirai Mugha Varmam point (the middle of the both legs) in the anterior aspect of both legs.

Sign and symptoms:

Damage to Komberi Varmam leads to sweating, features mimicking tetanus and tiredness will set in.

VIRUTTHI VARMAM

Synonyms:

- Virdhi varmam - Varma Kannaadi 500
- Virtthi varmam - Adi Varma Soothiram
- Viruthi varmam - Varma Laada Soothiram 300

Location:

“நவிலுகின்ற பெருவிரலிறைக்கு மேலாம்
ஒன்றான விற்தி என்ற காலமாகும்
உரையதின் மேல் ரண்டிறைக்குள் சுண்டோதரி.....”

-Varma Kannaadi-500

“போமென்ற பெருவிரல் மொழி மேல் விர்த்திகாலம்.”

- Adi Varma Sootcham-500

“வெல்லுவார் பெருவிரலுக்கு மேலிறை ஒன்றில் விருத்தி.”

- Varma Laada Soothiram-300

Finger breadth below the nerukku varmam (5 fingers above from the tip of each toes) of great toe or placed at the interphalangeal joint of great toe. Virutthi varmam is located 2.5 cms, above the tip of the big toe.

Symptoms:

Damage to Viruthi kaalam causes delirium, swelling of legs, faint.

Uses:

Strengthen the legs, used in emergency treatment.

ULLANKAI VELLAI VARMAM

Synonyms:

- Vellai varmam - Varma Kannadi-500
- Adi kuzhi - Varma Vidhi
- Munnoli varmam - Varma Soothiram Panjekarana Pinnal
- Karunasakkira kaalam - Varma Aani
- Kunju pichathi kaalam - Varma Vilakkam

Location:

"தீரமுறும் நடுகை அகமே வெள்ளை வர்மம்"

-Adi Varma Sootcham 500

"தேரான உள்ளங்கை வெள்ளை வர்மம்"

-Varma Kannadi 500

"காலமென்ற உள்ளங்கை நடுவில்தானே
கடினமதாம் கருணசக்கிர காலம் பாரு."

-Varma Aani 100

Centre of the palm.

Sign and symptoms:

Body pain, dull vision, fever, swelling and restriction in upper limbs.

Uses:

Strengthen the hip region, increases the memory power.

ULLANKAAL VELLAI VARMAM**Synonyms**

Adangal varmam - Varma Soothiram 1200

Kaal vellai varmam - Adivarma Sootcham 500

Allankaal varmam - Varma Viralalavu Nool

Adikkuzhi varmam - Varma Vidhi

Vellai varmam - Varma Odivu Murivu Sara Soothiram

Location:

"கீர்த்தியாம் பாதமதில் வெள்ளை வர்மம்."

- Varma Odivu Murivu Sara Soothiram -1200

"சூட்சுமடா வெள்ளையதில் அடங்கல் வர்மம்."

- Varma Soothiram- 101

"படைமுறித்தான் வர்மத்துக்கு இரண்டு விரலுக்குக்
கீழே உள்ளங்கால் வர்மம்

-Varma Noolalavu Nool

“அவனிதனில் உள்ளங்கால் வெள்ளை வர்மம்.”

- Varma Peerangi-100

“அகமான உள்ளம் கால் வெள்ளை வர்மம்.”

-Adi Varma Sootcham-500

In the centre of the plantar region.

Symptoms:

Fainting then death occurs.

Retrieval techniques:

Massaging with medicated oil and taking head bath with oil cures eye diseases.

Uses:

It cures giddiness, vomiting, faint, hysteria, convulsions and delirium.

NANGANA POOTTU (NAAIRUPPU VARMAM)

Synonyms

Naairuppu Varmam- Varma Aani

Putti varmam - Sathura Mani Soothiram

Location:

“இருப்பு வர்மத்துக்கு இருகால் வில் பொருத்தில் நாயிருப்புகாலம்.”

- Varma Aani -108

“பூணவே நால்விரல் மேல் பத்தாயவர்மம்

பொருந்திய மூவிரல் மேலே புட்டி வர்மம்.”

-Sathura Mani Soothiram

Sacral groove or 3 fingers from the lumbosacral joint

Retrieval techniques:

Place the middle part of the thumb and gently press sideways.

Uses:

Strengthen the lower limbs; it gives energy to the pancreas.

- Practical guidance given by Thiru. Shanmugam Aasaan

KUTRI KAALAM

Synonyms:

Kurundhukutri kalam – Varma Nithanam 500

Kurunthu kuri varmam – Varma Nool Alavu Nool

Kutri varmam – Varma Odivu Murivu Sara Soothiram

Location:

“பேசுகிறேன் குருந்து குற்றி காலம் கேளே
பிசகாமல் காதினுள் அகம் தானேயப்பா”.

-Varma Nithaanam 500

“செவிக்குத்திக் காலம் இது படுவார்மம் இதற்கு ஒரு விரலுக்கு
கீழ் தண்டுக்குள் குருந்து வார்மம் இது தொடுவார்மம்.”

-Varma Noolalavu Nool

Kutri kaalam is located 3 cms below the Porchai varmam or 27 cms from top of the head on both sides.

Sign and symptoms:

The affected person will turn around and fall down. Body will shake, eyes will close. If retrieval methods are started within eight hours, good result can be obtained.

Uses:

It controls facial palsy, regulate the pressure (Maathirai) given during the varmam treatment, used in emergency treatment.

CONDUCT OF THE STUDY:

The trial drug Akkini chooranam (Internal) is given for 48 days Kethaghi Thailam (External) is given for 48 days. 10 IP patients are treated with varmam along with their internal medicine. The remaining 10 IP patients didn't received varmam treatment. The results are compared at the end of the study.

MATERIALS AND METHODS

MATERIALS AND METHODS

The Study on Thandagavatham was carried out in the Department of Sirappu Maruthuvam, National Institute of Siddha.

According to ‘**Agasthiyar vaithiya rathina churukkam**’ and ‘**Sarabenthira vaithiya muraikal**’ (vatharoga sikichai), ‘**Akkini chooranam**’ (Internal) and ‘**Kethaghi Thailam**’ (External) are the preparations indicated for ‘Thandaga Vatham’.

1.ABOUT THE DISEASE

The disease “Thandaga vatham” has been dealt in the Siddha Maruthuvam as one among the 80 types of vatha diseases. Patients were selected according to the clinical features as mentioned in Yugi vaithiya sindhamani.

STUDY DESIGN AND CONDUCT OF STUDY:

STUDY TYPE :

A pilot study

STUDY PLACE :

OPD. & IPD. Of Ayothidoss Pandithar Hospital, National Institute of Siddha, Tambaram sanatorium, Chennai-47.

STUDY DESIGN:

A Pilot Clinical Trial

STUDY PLACE:

Ayothidoss Pandithar Hospital,

National Institute of Siddha, Chennai-47.

STUDY PERIOD:

12 months

SAMPLE SIZE:

40 patients [20 OP + 20 IP]

Out of 20 IP patients- 10 patients with trial medicine and the remaining 10 with Varmam along with trial medicine.

TRIAL DRUGS:**Internal medicine:**

AKKINI CHOORANAM [Agasthiyar vaithiya rathina churukkam pg no 44,45]

Dosage: Verukadi (1500mg) (b.i.d)

Adjuvant: Hot Water

Duration: 48 days.

External medicine:**KETHAGHI THAILAM**

[Sarabendira vaithiya muraikal vatharoga sikichai Pg,No 49,50]

Dosage: Q. S (for external application)

STANDARD OPERATING PROCEDURE:**Source of trial medicine:**

The required raw drugs for preparation of “**Akkini Chooranam**” (**Internal**) and “**Kethaghi Thailam**” (**External**) were purchased from a well reputed country raw drug shop and they were authenticated by the Head of the department concerned. After that the raw drugs were purified. The medicine will be prepared in Gunapadam Laboratory of National Institute of Siddha.

Drug storage:

The trial drug **Akkini Chooranam** is stored in a glass jar and **Kethaghi Thailam** is stored in clean and dry narrow mouthed bottles.

Dispensing:

The Chooranam is distributed to the patients in small plastic packets and the oil is given in disposable pet bottles

SUBJECT SELECTION:

Patients reporting with symptoms of Thandavatgham will be subjected to screening test using screening proforma then they will be involved for the trial.

VARMAM POINTS TO BE USED:

- Komberi
- Viruthi
- Ullangai vellai
- Ullangal vellai
- Nangana poottu

INCLUSION CRITERIA:

- Age : 20-65 yrs
- Sex : Both male and female
- History of Trauma
- Pain in lumbar region
- Radiating pain to buttocks and lower limbs
- Diffuse tenderness in lumbar region with limitation of movements
- Stiffness of lumbar spine
- Exacerbation of pain on movements
- Paraesthesia and numbness
- Patients who are willing to undergo radiological investigation and give blood samples for laboratory investigations
- Patient willing to sign the informed consent stating that he/she will conscientiously stick to the treatment during 48days but can opt out of the trial of his/her own conscious discretion.

EXCLUSION CRITERIA:

- Cardiac diseases
- Hypertension
- Diabetes mellitus
- Use of narcotic drugs
- Pregnancy and lactation
- Spina bifida
- Osteomyelitis
- Ankylosing spondylitis
- Tuberculosis of spine
- Patient with any other serious illness

WITHDRAWAL CRITERIA:

- Intolerance to the drug and development of adverse reactions during drug trial.
- Poor patient compliance and defaulters.
- Patient turning unwilling to continue in the course of clinical trial.

TESTS AND ASSESMENTS:

- A. Clinical assessment
- B. Laboratory Investigations
- C. Radiological investigations
- D. Siddha system examination

OUTCOME:

The outcome is aimed at reducing pain and increasing the range of movements.

A. CLINICAL ASSESMENT

- Pain in lumbar region
- Radiating pain to buttocks and lower limbs
- Diffuse tenderness in lumbar region with limitation of movements
- Stiffness of lumbar spine
- Exacerbation of pain on movements
- Pain increased on forward bending
- Paraesthesia & numbness
- Burning and tingling sensation in lower limbs

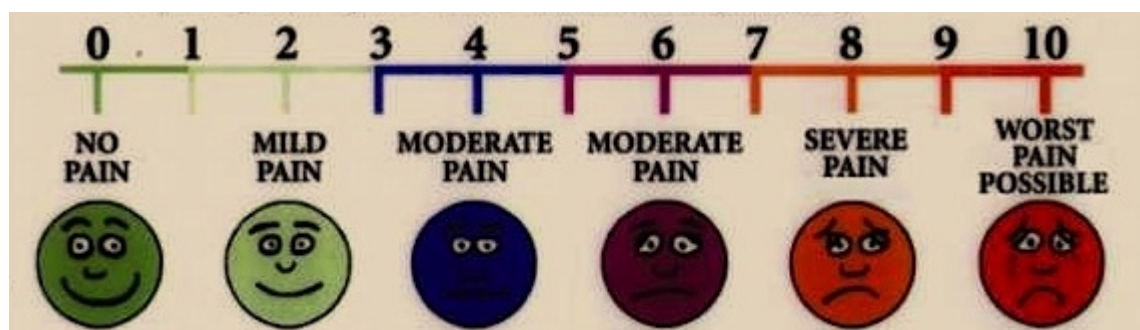
TESTS:

- Straight leg raising test

Improvement assessed by following assessments

1. Universal Pain assessment scale
2. Restricted movement assessment scale

1. UNIVERSAL PAIN ASSESMENT SCALE



- Grade 0 : No Pain
- Grade 1-3 : Mild pain
- Grade 4-6 : Moderate pain
- Grade 7-10 : Severe pain

[Ref: communication technology & society. <http://pectlab-dev.spcomm.uiuc.edu/drupal/> (submitted by DIMO 17 on wed, 03/09/2011)]

RESTRICTED MOVEMENT ASSESSMENT SCALE:

GRADATION OF MOVEMENTS

- GRADE I - Fit for all activities. Can do their work without support
- GRADE II - Mild restriction of movements, occasional numbness
- GRADE III - Moderate restriction of movements, stiffness, numbness.
- GRADE IV - Bed ridden / confined to chair.

B. LABORATORY INVESTIGATIONS:

BLOOD:

- Hb
- Total WBC Count
- DC- Polymorphs:
 - Lymphocytes
 - Eosinophils
 - Monocytes
 - Basophils
- Total RBC count
- ESR ½ hr:
 - 1hr:
- Blood sugar - Fasting , Post prandial:
 - Serum cholesterol
 - CRP, RA factor, ASO titre

KIDNEY FUNCTION TESTS:

Urea, Creatinine

LIVER FUNCTION TESTS:

Serum total bilirubin, Direct bilirubin, Indirect bilirubin, Serum Alkaline phosphatases, SGOT, SGPT.

URINE:

Urine sugar – Fasting:
Postprandial:

Albumin
Deposits

D.RADIOLOGICAL INVESTIGATION

X Ray Lumbar spine: AP and Lat View.

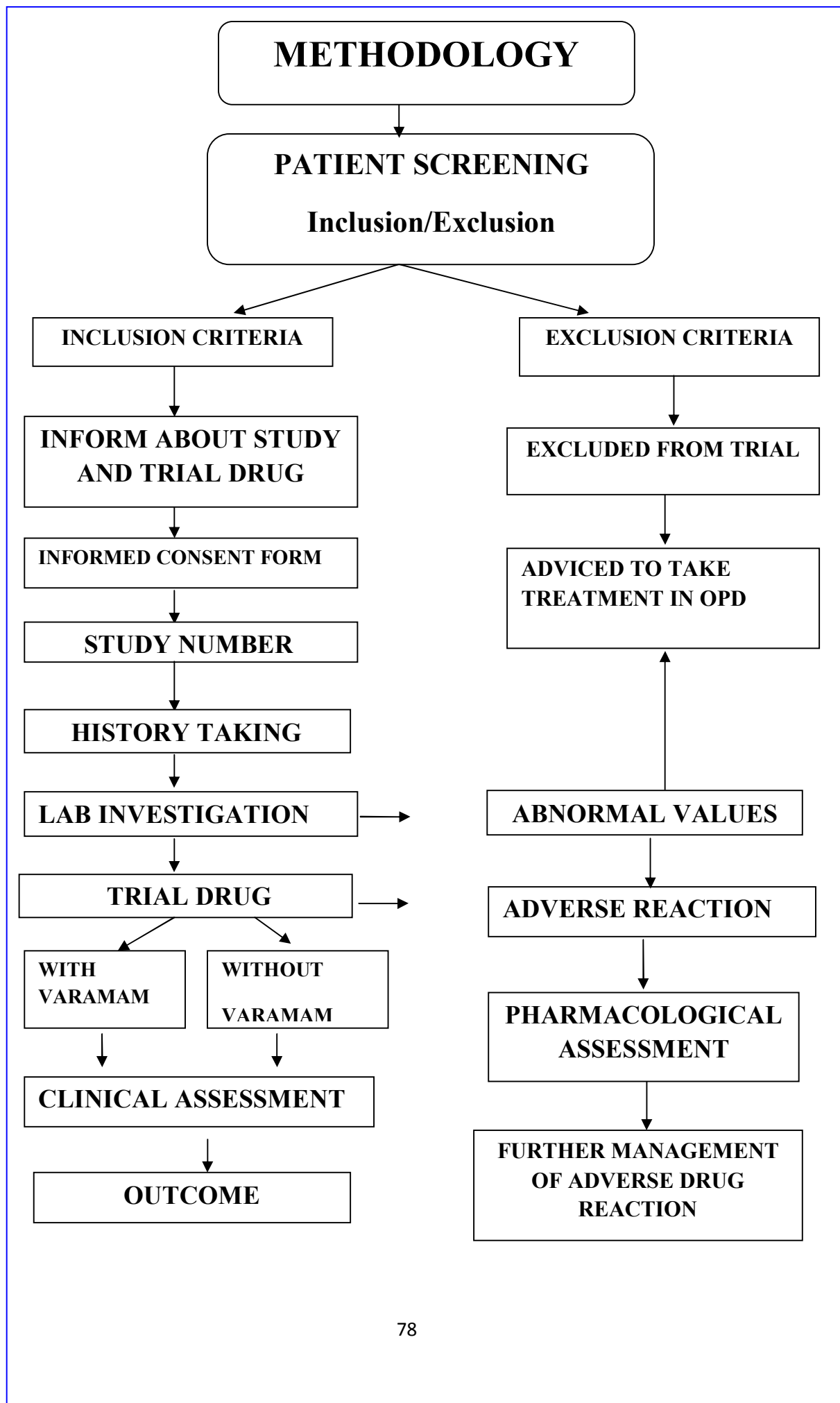
E. SIDDHA PARAMETERS:

1. Naadi
2. Sparisam
3. Naa
4. Niram
5. Mozhi
6. Vizhi
7. Malam
8. Moothiram
 - a. Neikkuri:
 - b. NeerkKuri:

DATA COLLECTION FORMS:

Required information will be collected from each patient by using the following forms:

- FORM I** : Screening and Selection Proforma
FORM II : History taking Proforma
FORM III : Clinical assessment Proforma
FORM IV : Laboratory Investigation Proforma
FORM V : Informed Consent Form
FORM VI : Withdrawal Form
FORM VII : Patient information sheet
FORM VIII : Dietary Advice form
FORM IX : Adverse Reaction form



STUDY ENROLLMENT:

Patients reporting at the OPD with the clinical symptoms of Thandaga vatham will be examined clinically for enrolling in the study based on the inclusion and exclusion criteria.

The patients who were enrolled would be informed (Form VI) about the study, trial drug, possible outcomes and the objectives of the study in the language and terms understandable to them and informed consent would be obtained in writing from them in the consent form (Form VI).

All these patients will be given unique registration card in which patients' Registration number of the study, Address, Phone number and Doctors phone number etc. will be given, so as to report easily should any complication arises.

Complete clinical history, complaints and duration, examination findings and laboratory investigations -- would be recorded in the prescribed Proforma.

Patients will be advised to take the trial drug and to follow the appropriate dietary advice.

CONDUCT OF THE STUDY:

On the first day of the treatment, Purgation in the early morning will be given with Agathiyar kuzambu – 130mg od with ginger juice in empty stomach

Next day onwards the trial drug Akkini choornam, Internally and Kethaghi thylam Externally are given continuously for 48 days. OP patients are requested to visit the hospital once in seven days. In each and every visit clinical assessment is done and prognosis is noted in the Prescribed Proformas. For IP Patients clinical assessment is done daily. 10 IP patients will be given Varmam treatment along with trial medicines. Laboratory investigations and Radiological investigations are done on the First day and the last day of the trial. Defaulters will not be allowed to continue and be withdrawn from the study.

DATA ANALYSIS:

After enrolling the patient for the study, a separate file for each and every patient will be opened and all forms will be kept in the file. Study No. and Patient No. will be written on the top of file for easy identification. Whenever the patient visits OPD during the study period, the respective patient's file will be taken and necessary entries will be made at the assessment form or other suitable form. The screening forms will be filed

separately. The data recordings will be monitored for completion and adverse event by HOD and pharmaco-vigilance committee. All forms will be further scrutinized in presence of Investigators by Sr. Research Officer (Statistics) for logical errors and incompleteness of data to avoid any bias. No modification in the results is permitted for unbiased report.

ADVERSE EFFECT/SERIOUS EFFECT MANAGEMENT

If the trial patient develops any adverse reaction, he/she would be immediately withdrawn from the trial and proper management will be given in OPD of National Institute of Siddha and the same will be informed to the Pharmaco-vigilance committee of NIS.

ETHICAL ISSUES:

1. To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of laboratory equipments will be used.
2. No other external or internal medicines will be used, other than the trial drug for osteoarthritis. There will be no infringement on the rights of the patient.
3. The data collected from the patient will be kept confidential.
4. After getting the consent of the patient only (through consent form in their own vernacular language) they will be enrolled in the study.
5. Treatment would be provided free of cost.
6. In any adverse reaction observed during the trial the patients will be given alternative treatment at National Institute of Siddha for further management.

OBSERVATIONS AND RESULTS

OBSERVATIONS AND RESULTS

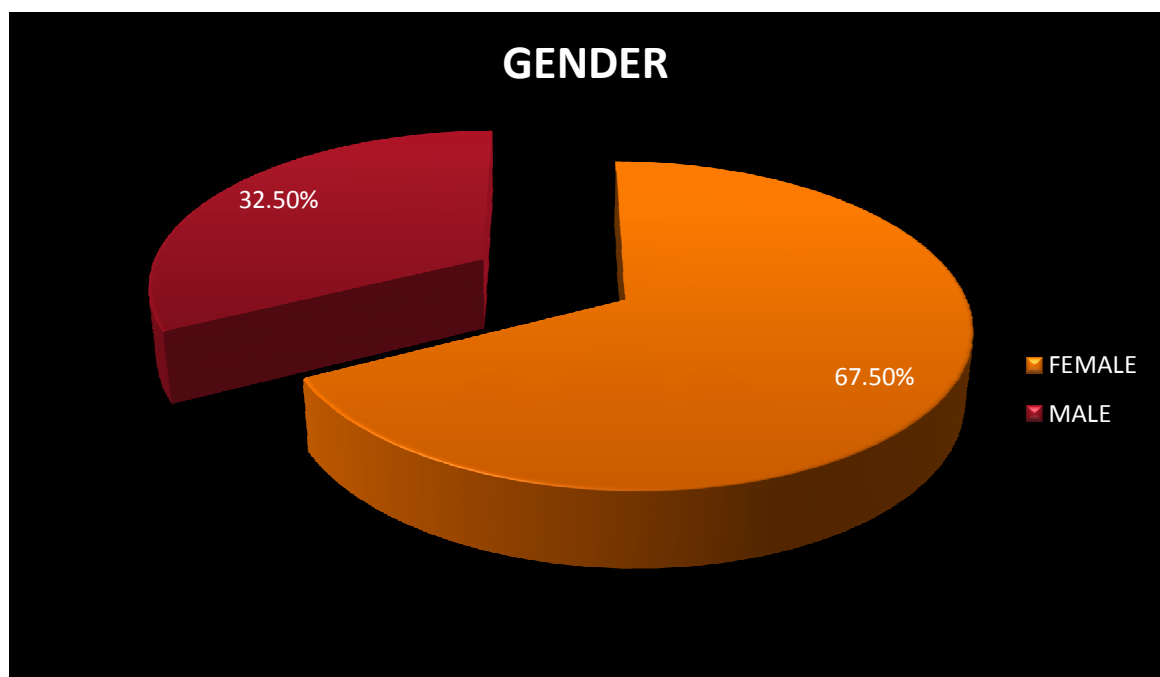
Results and observations were respect to the following criteria

1. Gender distribution
2. Age distribution
3. Gunam
4. Paruva kaalam (seasonal changes)
5. Diet
6. Thinai
7. Socio economic status
8. Derangement of Vatham
9. Derangement of Pitham
10. Derangement of Kabam
11. Naadi
12. Neikkuri analysis
13. Derangement of Udal thathukkal
14. Derangement of Kanmenthriyam
15. Duration of illness
16. Clinical features
17. Precipitating factors
18. Occupation
19. Outcome measurement
20. Result of Treatment

OBSERVATIONS AND RESULTS

1. Gender distribution:

GENDER	NUMBER OF PATIENTS	PERCENTAGE %
Male	13	32.5
Female	27	67.5

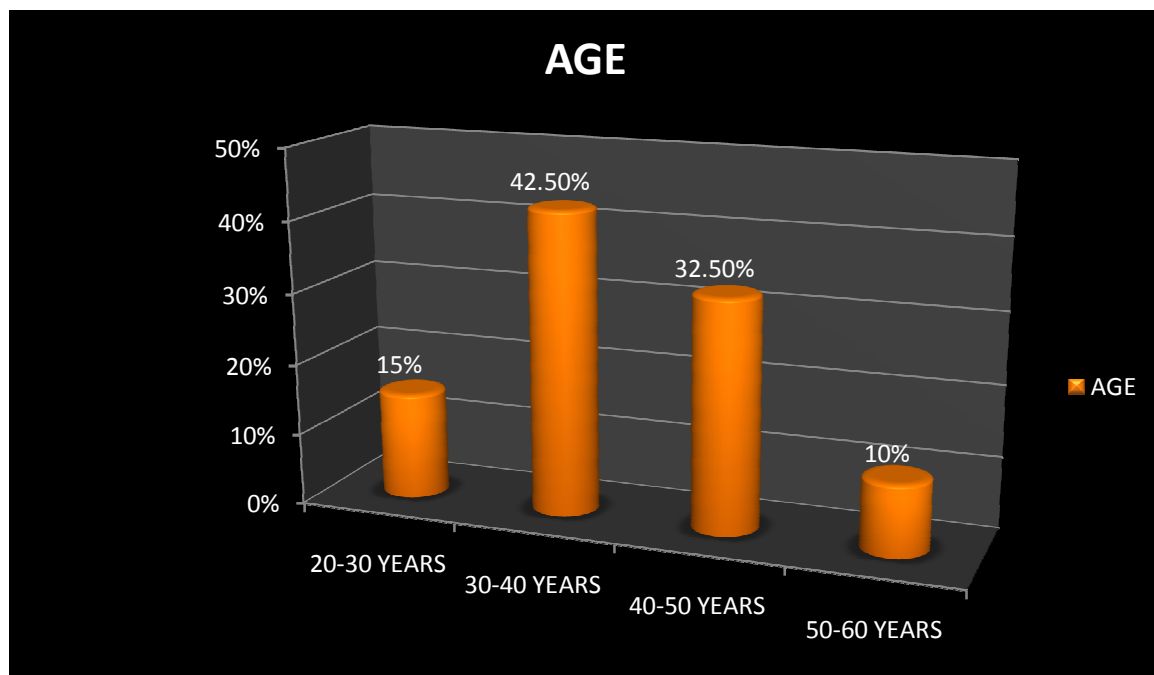


Observation:

Among the 40 patients selected, the disease was found to be higher in females (67.5%).

2. Age distribution:

AGE (YEARS)	NUMBER OF PATIENTS	PERCENTAGE %
20 - 30	6	15
31 - 40	17	42.5
41 - 50	13	32.5
51 - 60	4	10
Total	40	100

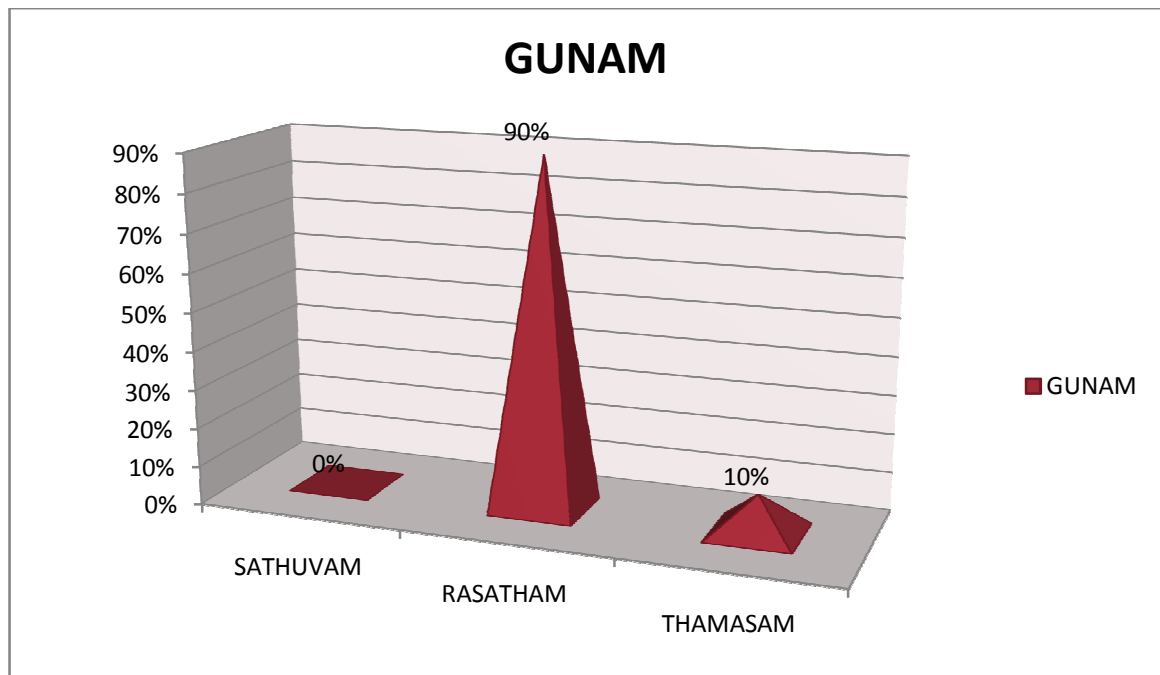


Observation:

In my study, the disease was found to be higher in the age group 31-40years.

3. Gunam

GUNAM	NUMBER OF PATIENTS	PERCENTAGE %
Sathuvam	0	0
Rasatham	36	90
Thamasam	4	10
Total	40	100

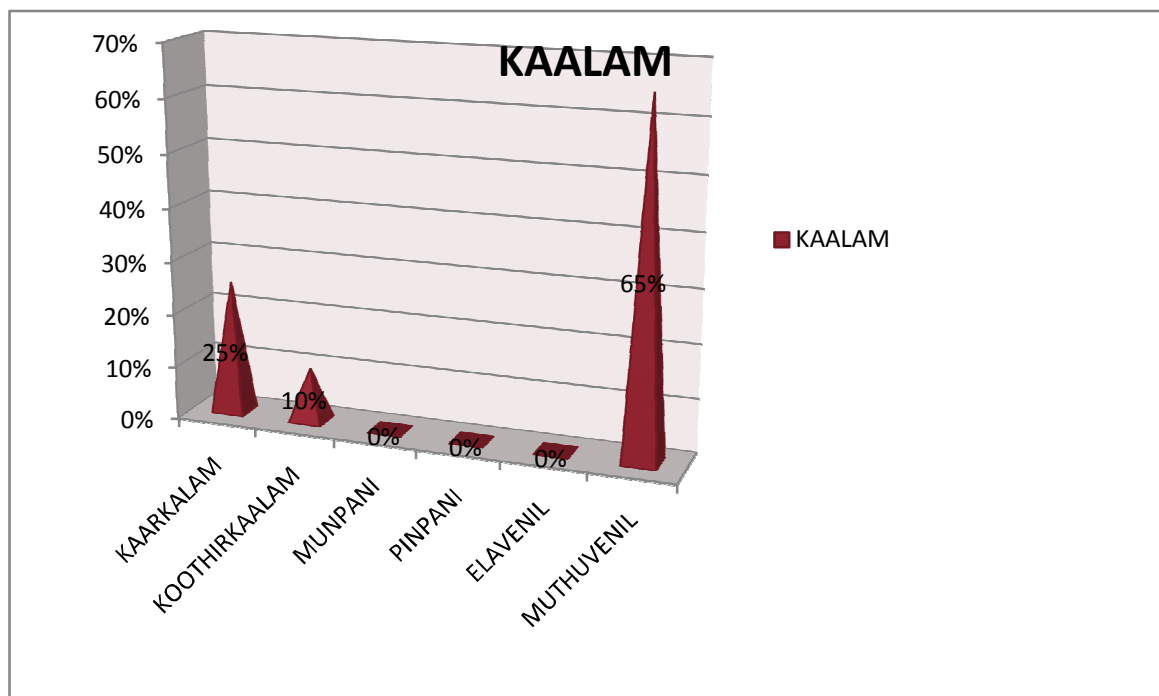


Observation:

Among the 40 cases the disease was found to be higher in patients with Rasatha gunam.

4. Paruva kaalam (Season)

PARUVA KAALAM	MONTHS YEAR-2011	NUMBER OF PATIENTS	PERCENTAGE %
Kaarkaalam	17 th Aug-17 th Oct	10	25
Koothirkaalam	18 th Oct-15 th Dec	4	10
Munpanikaalam	16 th Dec-12 th Feb	0	0
Pinpanikaalam	13 th Feb-13 th Apr	0	0
Ilavenil kaalam	14 th Apr-16 th June	0	0
Mudhuvenil kaalam	17 th June-16 th Aug	26	65
Total		40	100

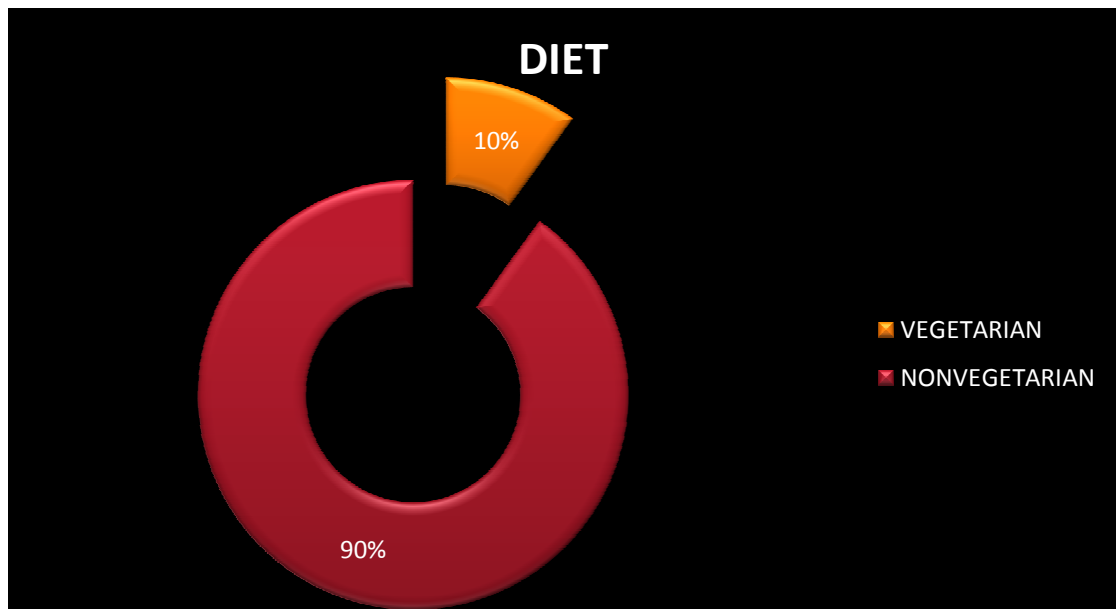


Observation:

Among the 40 patients, 4 cases (10%) was admitted to the trial in Koothirkaalam,. 28 cases (65%) in mudhuvenil Kaalam and the remaining 10 cases (25%) in kaarkalam. No case was admitted in Munpani, Pinpani, and Elavenil Kaalam.

5. Diet

DIET	NUMBER OF PATIENTS	PERCENTAGE %
Vegetarian	4	10
Non - Vegetarian	36	90
Total	40	100

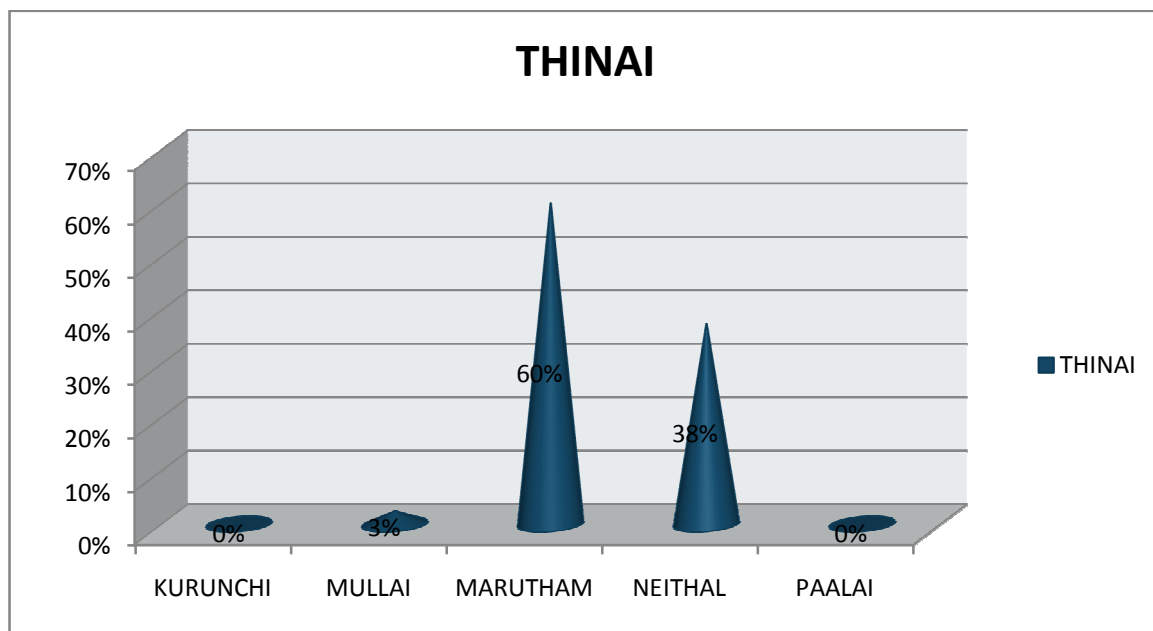


Observation:

Among the 40 cases 90% of cases were non-vegetarian 10% of cases were vegetarian.

6. Thina:

THINAI	NUMBER OF PATIENTS	PERCENTAGE %
Kurinji	0	0
Mullai	1	2.5
Marutham	24	60
Neithal	15	37.5
Paalai	0	0

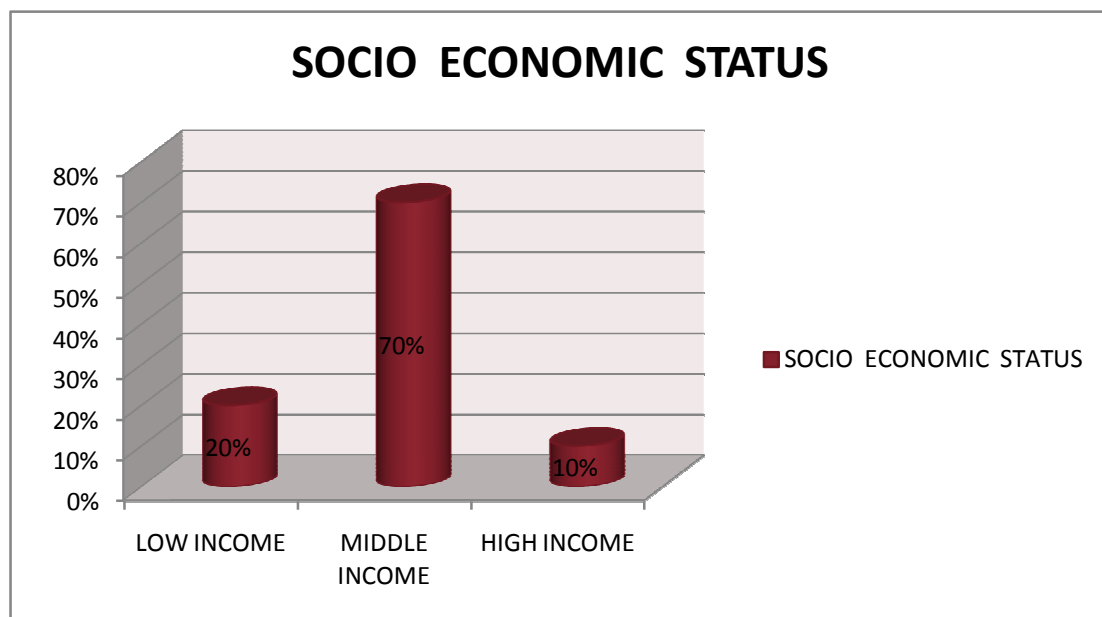


Observation

Most of the cases (60%) reported were from Marutham thina and (2.5%) from mullai thina. The remaining (37.5%) of cases reported were from Neithal thina.

7. Socio economic Status:

SOCIO – ECONOMIC STATUS	NUMBER OF PATIENTS	PERCENTAGE %
Low income	8	20
Middle income	28	70
High income	4	10
Total	40	100

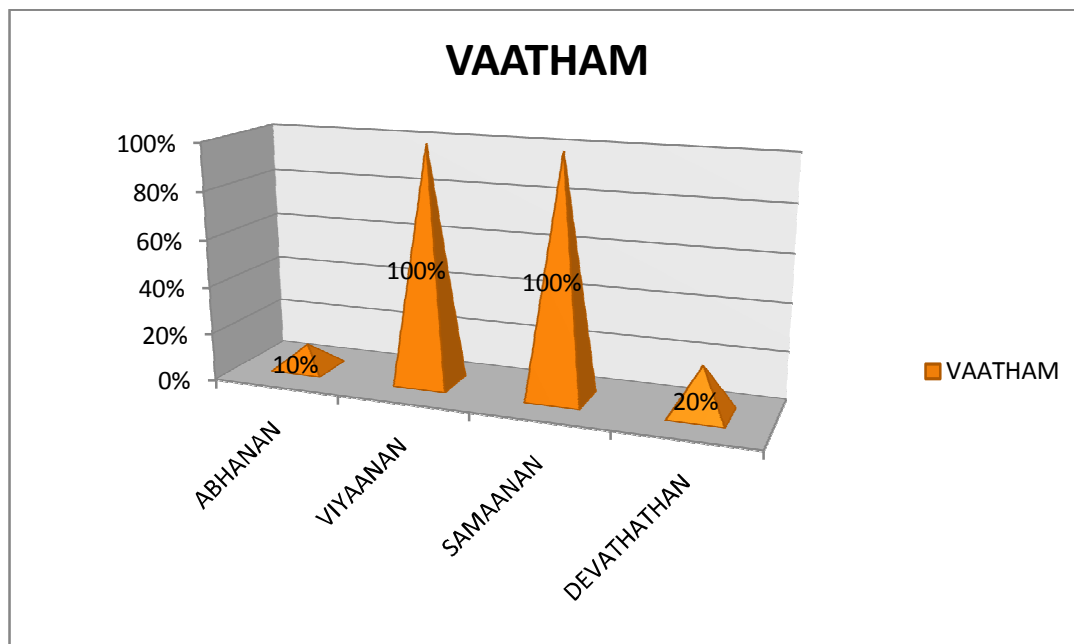


Observation:

The disease was found to be higher in middle class (70%)

8. Disturbances in Vatham:

VATHAM	NUMBER OF PATIENTS	PERCENTAGE %
Abanan	4	10
Viyaanan	40	100
Samanan	40	100
Devathatan	8	20

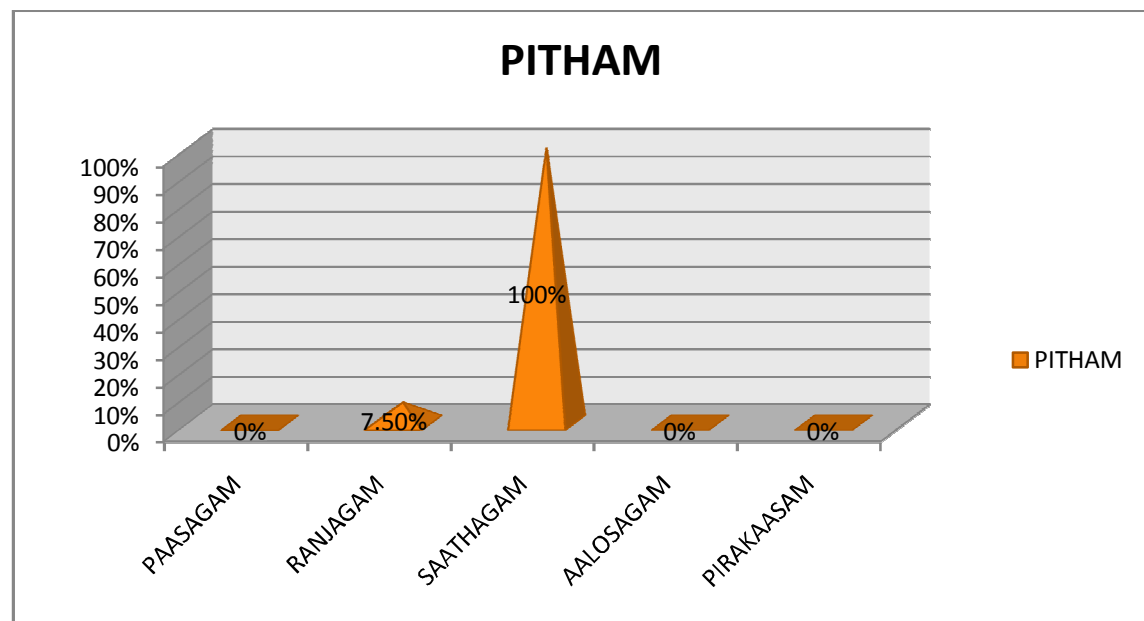


Observation:

Among the 40 cases observed Viyaanan and Samanan were affected in almost all the cases (100%) while Abanan was affected in 4 cases (10%) and Devathatan in 8 cases (20%)

9. Disturbances in Pitham:

PITHAM	NUMBER OF PATIENTS	PERCENTAGE %
Paasagam	-	0
Ranjagam	3	7.5
Saathagam	40	100
Aalosagam	-	0
piragaasam	-	0



Observation:

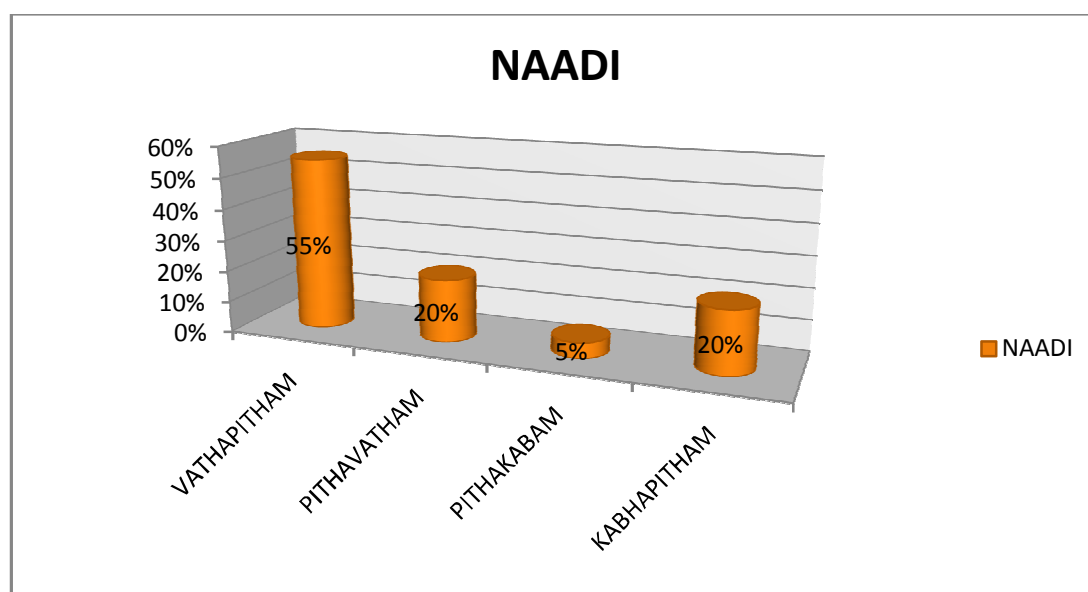
Among the 40 cases Saathagam was affected in almost all cases and Ranjagam was affected in 3cases (7.5%).

10. Disturbances in Kabam

Only Santhigam was affected in all the 40 cases.

11. Naadi:

NAADI	NUMBER OF PATIENTS	PERCENTAGE %
Vatha pitham	22	55
Pitha vatham	8	20
Pitha kabam	2	5
Kaba pitham	8	20
Total	40	100

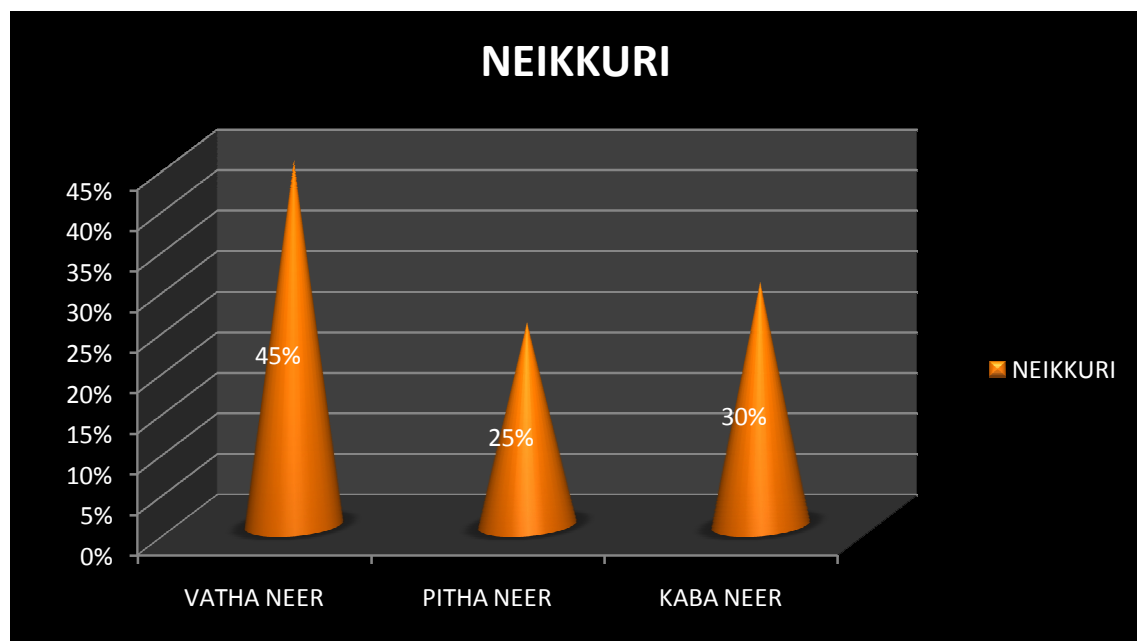


Observation:

Among 40 cases Vatha pitha naadi was found in 22 cases (55%), Pitha vatha naadi was found in 8 cases (20%), Pitha kaba naadi was found in 2 cases (5%), Kaba pitha naadi was found in 8 cases (20%).

12. Neikkuri:

SPREADING PATTERN	NUMBER OF PATIENTS	PERCENTAGE %
Aravena neendathu – Vatha neer	18	45
Aazhi pol paraviyadhu – Pitha neer	10	25
Muthothu nindrathu – Kaba neer	12	30
Total	40	100

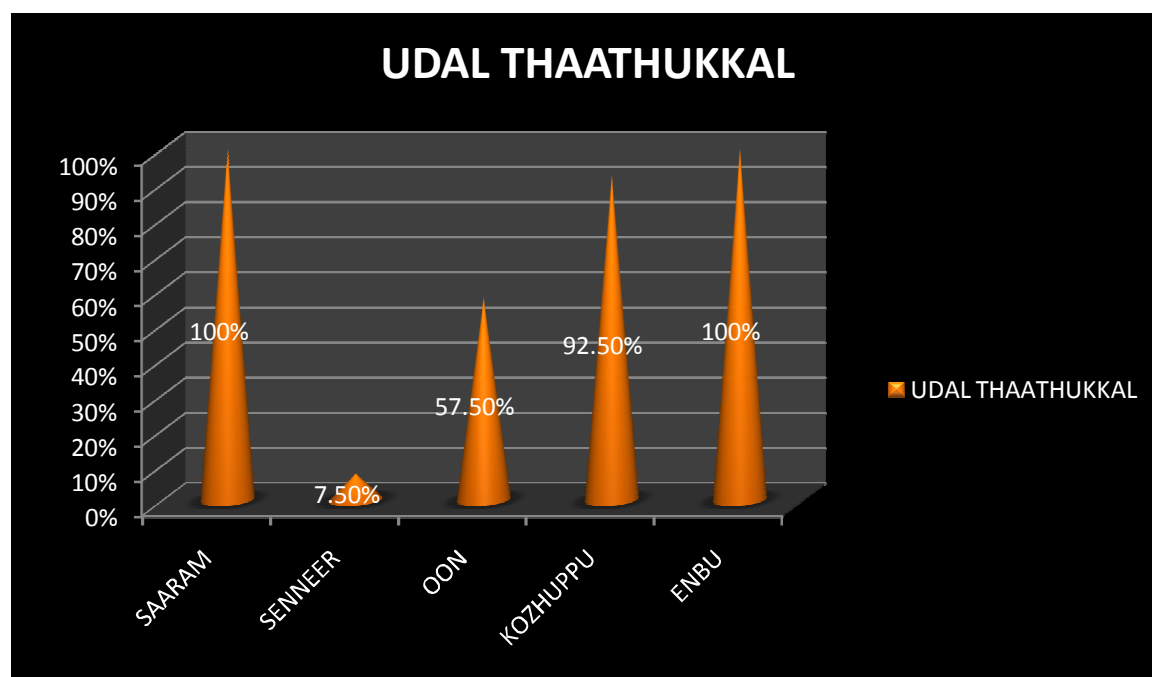


Observation:

Among 40 cases Vatha neer was found in 18 cases (45%), Pitha neer was found in 10 cases (25%), Kaba neer was found in 12 cases (30%).

13. Udal Thaathukkal

UDAL THAATHUKKAL	NUMBER OF PATIENTS	PERCENTAGE %
Saaram	40	100
Senneer	3	7.5
Oon	23	57.5
Kozhuppu	37	92.5
Enbu	40	100

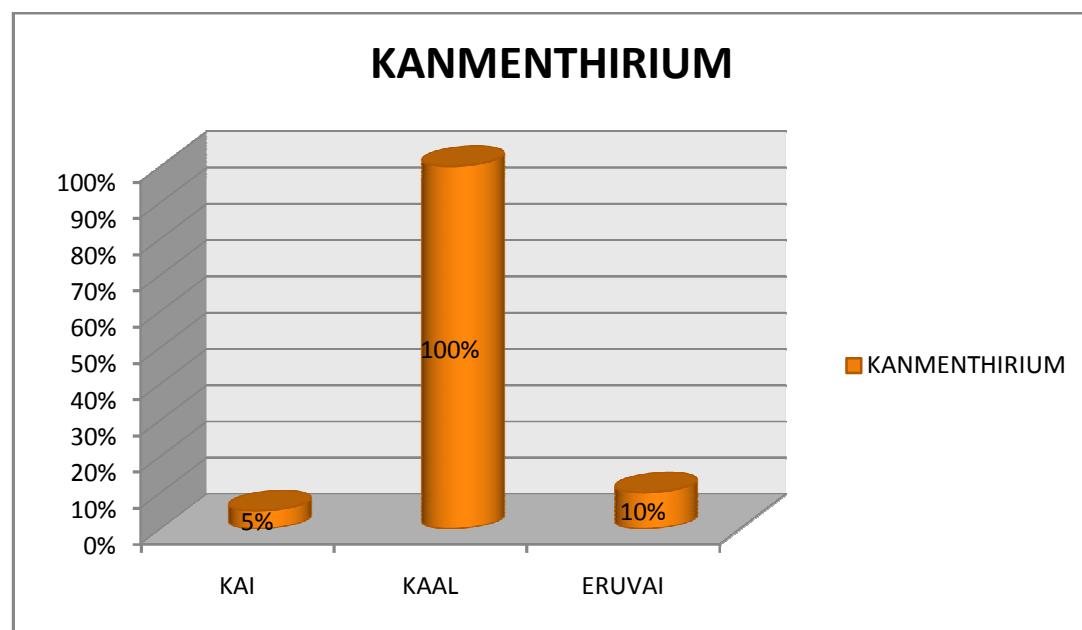


Observation:

Saaram and Enbu were affected in all the 40 cases (100%), Senneer was affected in 3 cases (7.5%), Oon was affected in 23 cases (57.5%), Kozhuppu was affected in 37 cases (92.5%).

14Disturbances in Kanmenthiriyaam:

DURATION OF ILLNESS	NUMBER OF CASES	PERCENTAGE %
Kai	2	5
Kaal	40	100
Eruvai	4	10

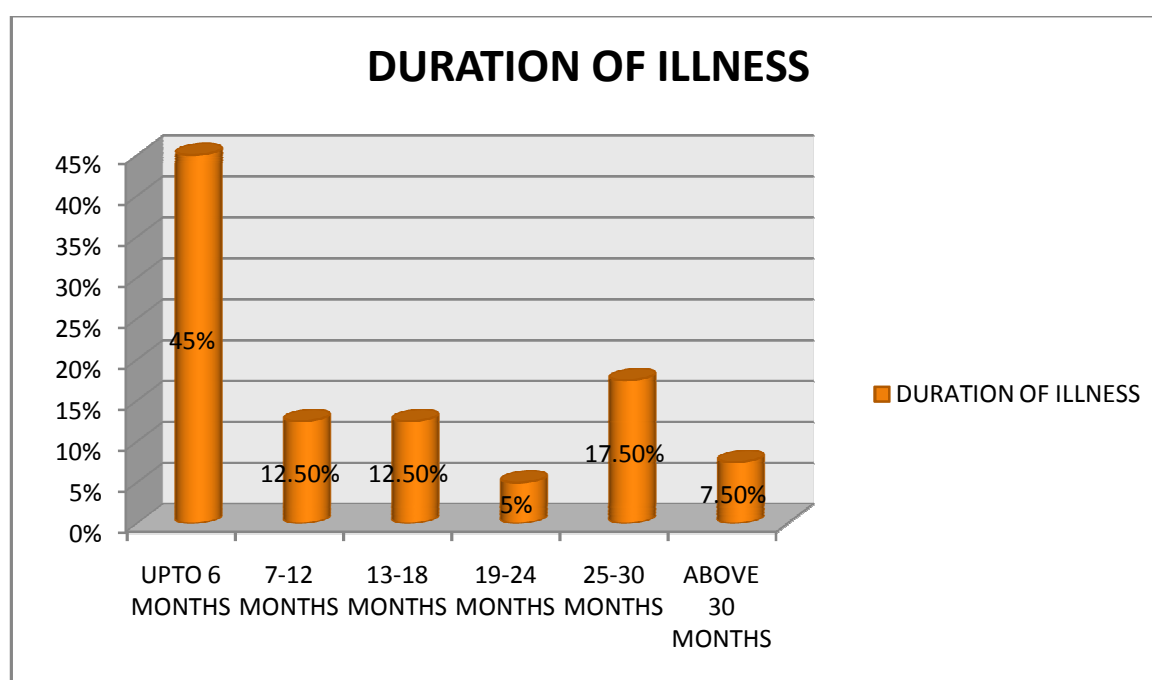


Observation:

Kaal was affected in 40 cases (100%), Kai was affected in 2cases (5%), Eruvaai was affected in 4 cases (10%).

15. Duration of Illness:

DURATION OF ILLNESS	NUMBER OF CASES	PERCENTAGE %
Upto 6 months	18	45
7 to 12 months	5	12.5
13 to 18 months	5	12.5
19 to 24 months	2	5
25 to 30 months	7	17.5
Above 30 months	3	7.5

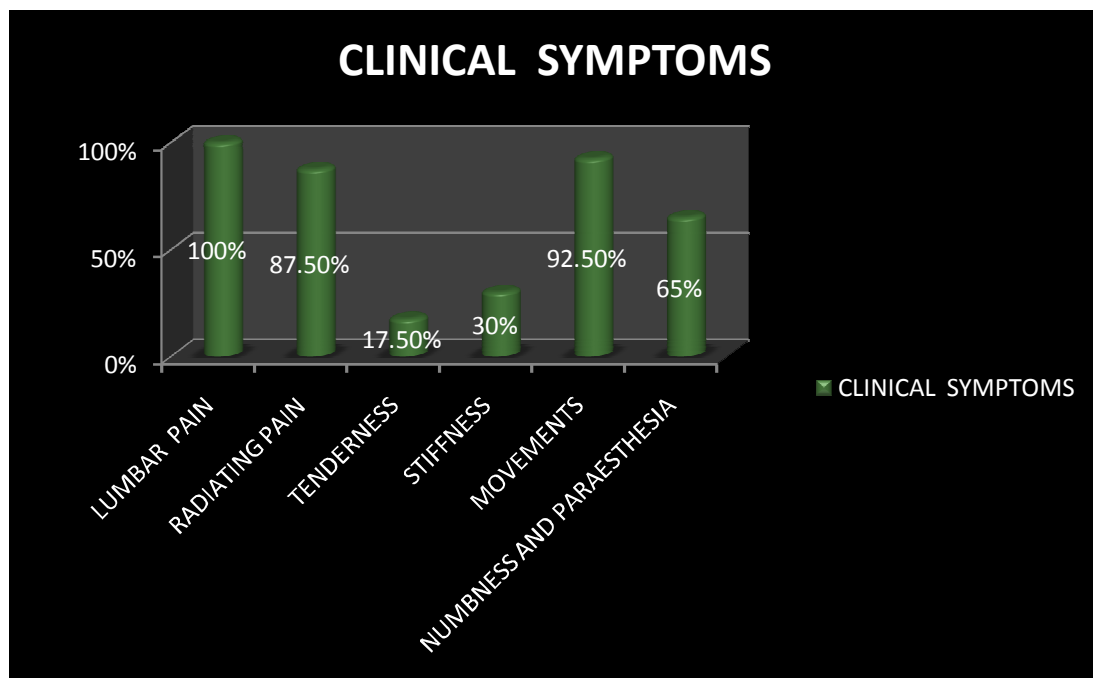


Observation:

Among 40 cases, 18 cases were affected by the disease for the past 6 months, 5 cases were affected for the past 7-12 months, 5 cases for the past 13-18 months, 2 cases for the past 19-24 months, 7 cases for the past 25-30 months and remaining, 3 cases were affected for more than 30 months.

16. Clinical symptoms:

SYMPTOMS	NUMBER OF PATIENTS	PERCENTAGE %
Pain in lumbar region	40	100
Radiating pain to buttocks and lower limbs	35	87.5
Tenderness	7	17.5
Stiffness of lumbar spine	12	30
Exacerbation of pain on movements	37	92.5
Numbness and paraesthesia	26	65

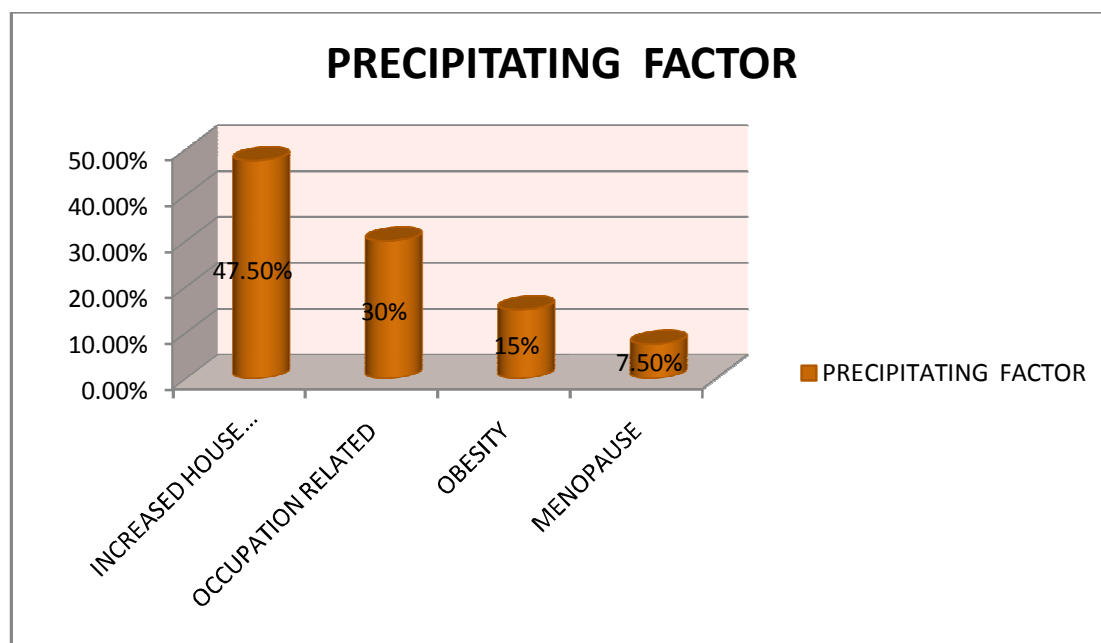


Observation:

Among 40 cases, all of them had lumbar pain (100%), 35 cases (87.5%) had radiating pain to buttocks and lower limbs, 7 cases (17.5%) had diffuse tenderness in lumbar region with limitation of movements, 12 cases (30%) had stiffness in lumbar spine, 37 cases (92.5%) had exacerbation of pain on movements, 26 cases (65%) had numbness and paraesthesia.

17. Precipitating Factors:

PRECIPITATING FACTORS	NUMBER OF PATIENTS	PERCENTAGE %
Increased household works	19	47.5
Occupation related	12	30
Obesity	6	15
Menopause	3	7.5
Total	40	100

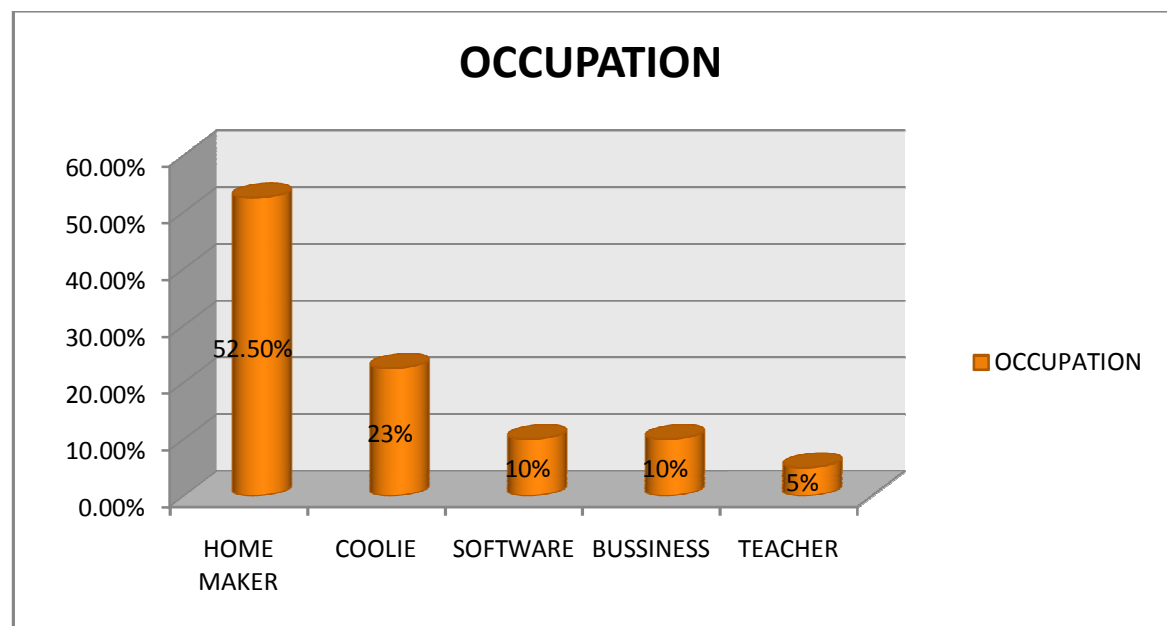


Observation:

Among 40 cases, increased household works was in the highest percentage of precipitating factors, occupation stood next followed by obesity and menopause.

18. Occupation

OCCUPATION	NUMBER OF PATIENTS	PERCENTAGE %
Homemaker	21	52.5
Coolie	9	22.5
Software	4	10
Bussiness	4	10
Teacher	2	5
Total	40	100



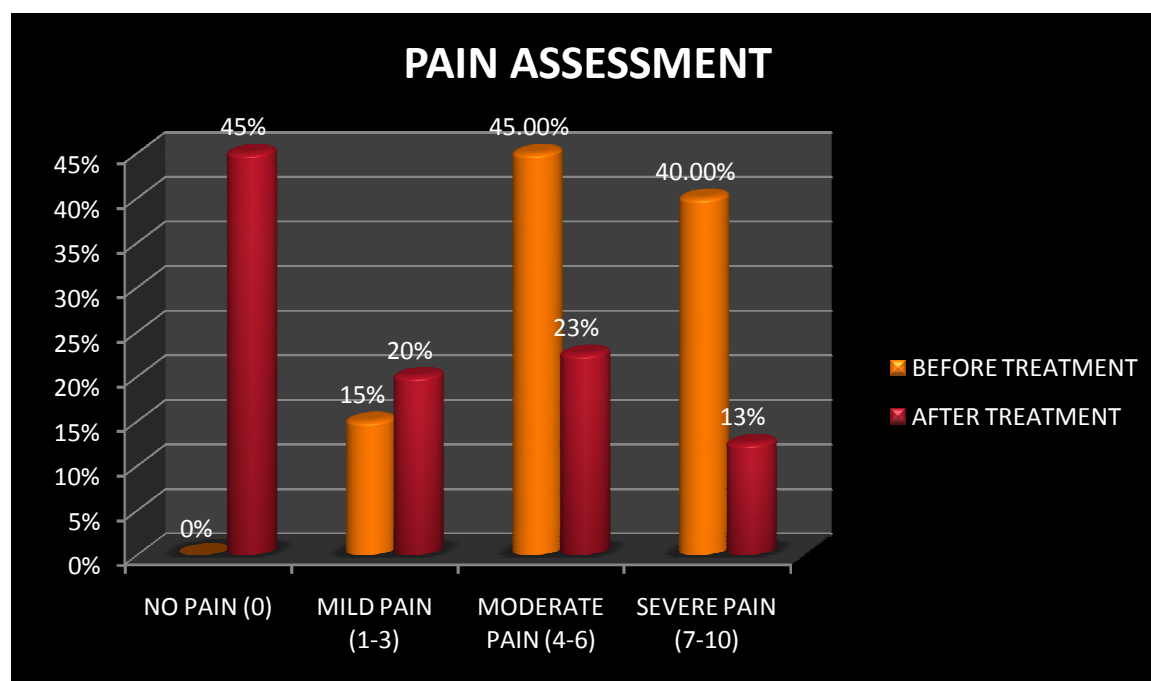
Observation:

Among 40 cases, 21 cases (52.5%) were homemakers, 9 cases (22.5%) were coolie, 4 cases (10%) were software, 4 cases (10%) were bussiness, and 2 cases (5%) were teacher.

19. OUTCOME MEASURES

Pain assessment scale:

Pain assesment	BEFORE TREATMENT		AFTER TREATMENT	
	Number of patients	Percentage %	Number of patients	Percentage %
No pain 0	-	-	18	45
Mild (1-3)	6	15	8	20
Moderate (4-6)	18	45	9	22.5
Severe (7-10)	16	40	5	12.5
Total	40	100	40	100

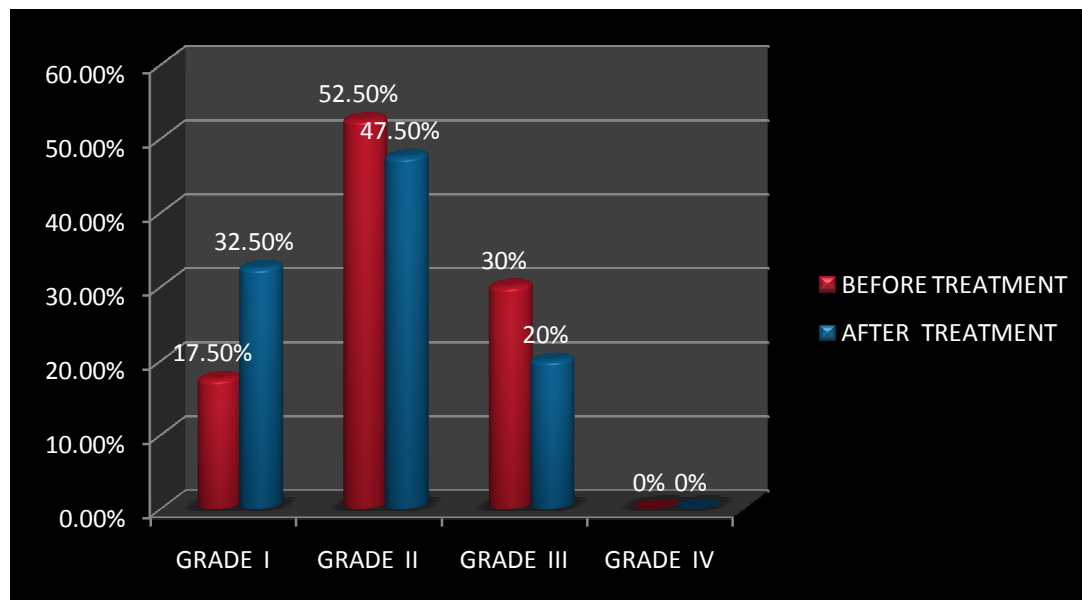


Observation:

Among the 40 cases, after the treatment the pain was reduced in 18 cases (45%), mild pain was present in 8 cases (20%), moderate pain was present in 9 cases (22.5%), severe pain was present in 5 cases (12.5%).

RESTRICTED MOVEMENT ASSESSMENT SCALE:

GRADING	BEFORE TREATMENT		AFTER TREATMENT	
	Number of patients	Percentage %	Number of patients	Percentage %
GRADE I	7	17.5	13	32.5
GRADE II	21	52.5	19	47.5
GRADE III	12	30	8	20
GRADE IV	-	-	-	-
TOTAL	40	100	40	100



Gradation of movements

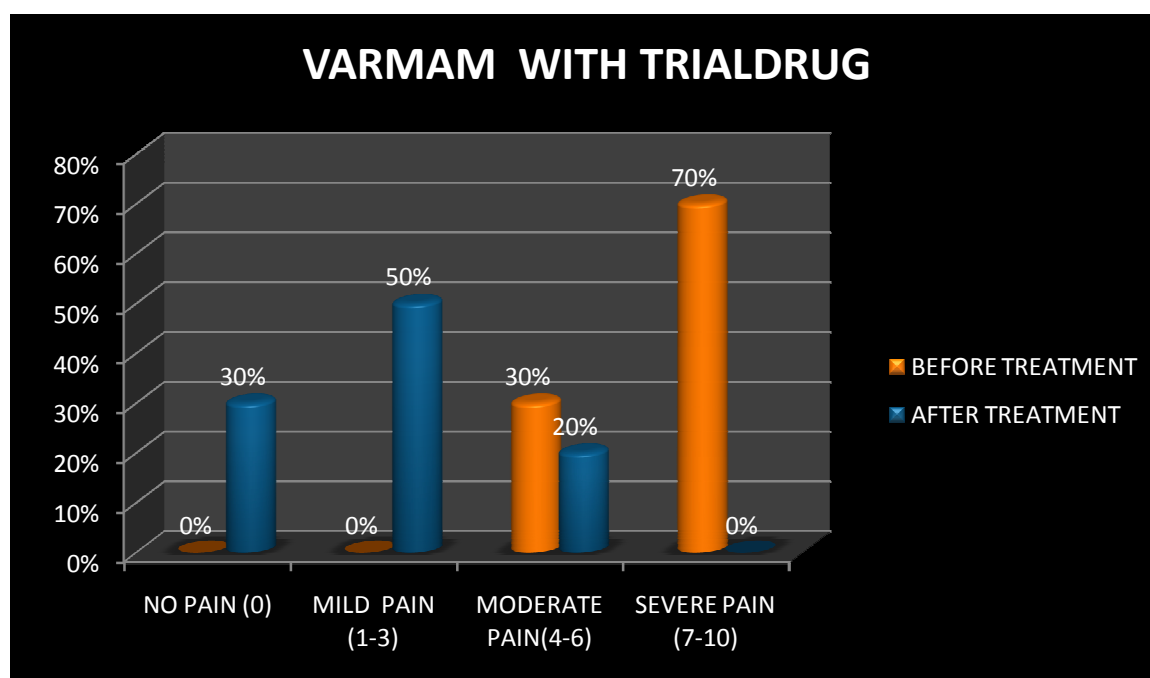
- GRADE I - Fit for all activities. Can do their work without support
- GRADE II - Mild restriction of movements, occasional numbness
- GRADE III - Moderate restriction of movements, stiffness, numbness.
- GRADE IV - Bed ridden / confined to chair.

Observation:

After the treatment among 40 patients restriction was reduced in 13 cases (32.5%), mild restriction was found in 19 cases (47.5%), moderate restriction was found in 8 cases (20%).

PAIN ASSESSMENT (VARMAM + TRIAL DRUG)

Pain assessment (varmam + trial drug)	BEFORE TREATMENT		AFTER TREATMENT	
	Number of patients	Percentage %	Number of patients	Percentage %
No pain 0	-	-	3	30
Mild (1-3)	-	-	5	50
Moderate (4-6)	3	30	2	20
Severe (7-10	7	70	-	-
Total	10	100	10	100

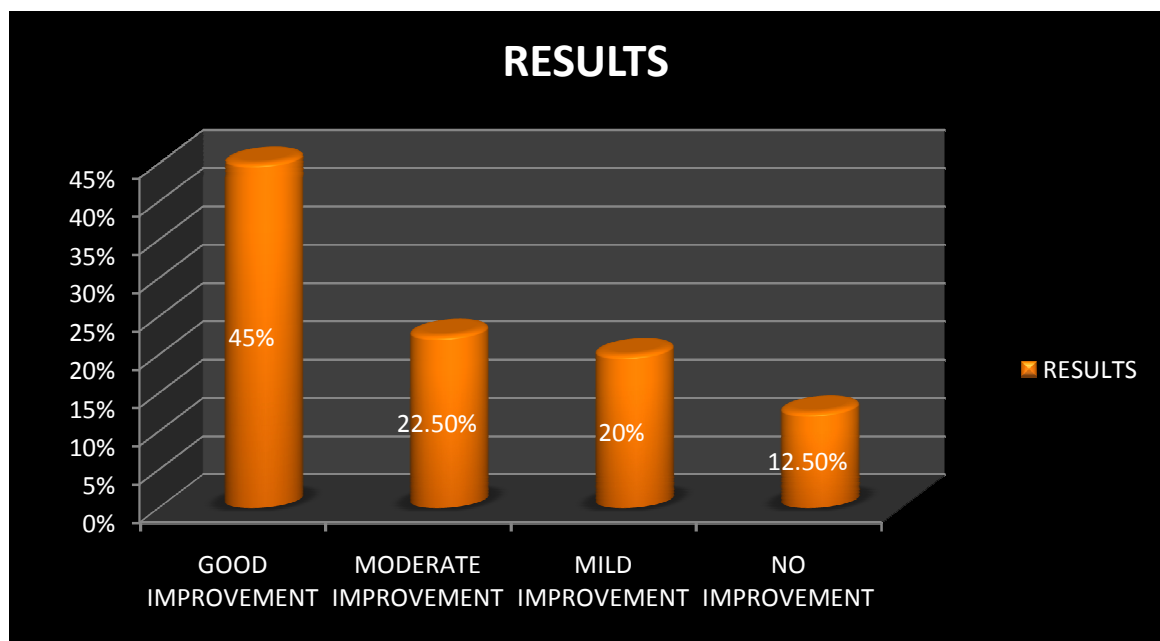


Observation:

Among the 10 cases, after the treatment the pain was reduced in 3 cases (30%), mild pain was present in 5 cases (50 %) and moderate pain was present in 2case (20%).

20. RESULTS AFTER TREATMENT:

RESULT	NUMBER OF PATIENTS	PERCENTAGE %
Good improvement	18	45
Moderate improvement	9	22.5
Mild improvement	8	20
No improvement	5	12.5
Total	40	100



Observation:

Out of the 40 cases Good improvement was observed in 18 patients (45 %), Moderate improvement in 9 patients (22.5 %), Mild improvement in 8 patients (20 %) and no improvement was observed in 5 cases (12.5%).

Statistical Analysis:

All collected data were entered into MS Excel software using different columns as variables and rows as patients. SPSS software was used to perform statistical analysis. Basic descriptive statistics include frequency distributions and cross-tabulations were performed. The quantity variables were expressed as Mean \pm Standard Deviation and qualitative data as percentage. A probability value of <0.05 was considered to indicate as statistical significance. Paired 't' test was performed for determining the significance between before and after treatment.

Mean and Std of symptom score of before and after treatment

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 BT	5.95	40	1.768	.280
AT	2.68	40	2.939	.465

Paired Samples Test

	t	df	Sig. (2-tailed)
Pair 1 BT - AT	9.980	39	$p < 0.0001$

There is significant difference between before and after treatment.

LABORATORY INVESTIGATION

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S.No	OP No	NAME	AGE /SEX	Hb (gm/dl)		TOTAL RBC COUNT (million/cu.mm)		ESR (mm/hour)		TOTAL WBC COUNT	
				BT	AT	BT	AT	BT	AT	BT	AT
1.	C82563	Mr.Vasanthakumar	35/M	16.7	17	5.8	5.8	4	4	8,200	8000
2.	C75755	Mrs.Shanthi	49/F	14	14.2	4.9	5.0	42	20	6000	7,100
3.	C84113	Mr.c.Sathishkumar	26/M	15.8	16.1	5.1	5.1	6	4	7,600	6,500
4.	C75090	Mrs.Malarvizhi	37/F	12.8	12.6	4.4	4.2	64	4	6000	10,000
5.	C45590	MrsSelvaraj	59/M	14.1	13.9	4.8	4.7	10	6	6,900	5,900
6.	C79086	Mrs.Rajalakshmi	45/F	14.4	14.3	4.8	4.8	10	26	8,600	9,500
7.	C90595	Mrs.v.Rajeshwari	45/F	12.8	12.8	4.7	4.6	6	8	8,700	8,500
8.	C77145	Mr.Suresh	35/M	15.6	15.6	4.9	5.1	4	12	9,300	7,800
9.	C84474	Mr.G.Venkatesan	46/M	14.3	13.6	4.7	4.4	20	56	10,000	9,100
10.	C86259	Mrs.S.Neela	30/F	11.2	11.7	4.1	4.3	26	30	8,600	7,000
11.	C81508	Miss.K.Sumathi	40/F	13.8	14.3	4.6	4.8	10	10	9,900	7,500
12.	C71891	Mr.R. Velmugan	31/M	17.0	18.2	5.7	5.9	4	4	4,800	8,300
13.	C87043	Mrs.Shanthisubramanian	49/M	12.4	12.0	4.3	4.3	28	28	6,400	5,900
14.	C72072	Mrs.Gowri	38/F	13.3	12.8	4.6	4.4	20	68	9,500	8,800
15.	C76072	Mrs.Rajakani	42/F	9.2	8.9	4.0	4.0	16	22	5,700	6,300
16.	C87323	Mrs.S.Kalaivani	33/F	13.7	12.5	4.7	4.3	6	32	13,000	12,000
17.	C64568	Mr.Balakrishnan	44/F	16.6	16.5	5.4	5.2	4	4	4,800	4,800
18.	C90595	Mrs.Bhavani	22/F	12.7	10.2	4.7	4.4	8	8	7,100	9,200
19.	C30459	Mr.Gnanaprakash	25/M	16.0	13.5	5.6	5.5	4	6	7,100	6,000
20.	C82864	Mrs.B.Krishnaveni	38/F	12.4	12.8	3.8	3.6	10	14	9000	8,500

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S.No	IP No	NAME	AGE/ SEX	Hb (gm/dl)		TOTAL RBC COUNT (million/		ESR (mm/hou)		TOTAL COUNT WBC	
				BT	AT	BT	AT	BT	AT	BT	AT
1.	3991	Mrs.K..Jesi	46/F	13.8	13.5	4.9	4.7	8	12	8,900	7,100
2.	4952	Mr.Jahir hussain	42/M	14.1	13.6	4.9	4.9	4	5	7,200	8,800
3.	4005	Mrs.Bhuvneshwari	32/M	11.9	11.9	4.7	4.6	6	8	6,200	5,700
4.	4006	Mrs.Gnanasoundari	34/F	12.8	13.1	4.5	4.6	20	14	8,900	9000
5.	4981	Mr.Natarajan.R	45/M	13.0	13.9	4.5	4.4	4	4	8,000	7,400
6.	4022	Mrs.Rajeshwari	46/F	10.1	12.4	3.9	4.4	10	4	6,100	9,200
7.	4026	Mrs.P.Selvi	37/F	9.3	9.3	4.0	4.0	14	10	7,900	7,700
8.	4033	Mrs.Rajamma.R	52/F	14.3	14.0	5.0	5.0	6	8	6,400	7,000
9.	5001	Mr.S.V.Maheshwaran	50/M	15.0	15.5	4.8	4.9	4	4	6,500	7,400
10.	4045	Mrs.Alamelu	42/F	12.8	12.5	4.2	4.0	10	22	12,100	9,900
11.	4047	Mrs.Malliga	30/F	13.0	12.9	4.3	4.2	12	18	9,800	12,100
12.	4074	Mrs.Bakyavathy	52/F	12.9	10.5	5.0	4.9	40	12	8,900	7,500
13.	4104	Mr.K.Balu	41/M	17.5	13.6	5.6	5.1	4	6	7000	6,400
14.	4104	Mrs.B.Selvi	39/F	10.4	12.0	3.4	4.3	4	4	6,800	6,200
15.	5083	Mr.T.Manimaran	44/M	16.2	14.1	5.3	5.3	4	4	7,000	6,800
16.	4157	Mrs.R.Gomathy	40/F	13.5	10.8	4.3	4.0	4	20	8,900	6,800
17.	4174	MrsDhanalakshmi	55/F	13.5	10.2	4.7	4.4	6	8	6,800	6,100
18.	4195	Mrs.Vanaroja	35/F	12.9	11.4	4.6	4.7	8	26	7,500	8,000
19.	4197	Mrs.P.Sridevibagavathy	30/F	11.8	10.5	5.4	5.2	12	4	5,800	4,900
20	4217	Mrs.D.Banu	40/F	10.8	11.8	3.5	4.0	34	24	7,600	7,000

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S. No	OP No	NAME	AGE/ SEX	BLOOD GLUCOSE (F)		BLOOD GLUCOSE (PP)		UREA		CREATINI NE		TOTAL CHOLEST EROL	
				BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1.	C82563	Mr.Vasanthakumar	35/M	78	87	101	105	17	19	0.6	0.6	105	112
2.	C75755	Mrs.Shanthi	49/F	80	84	100	123	18	14	0.6	0.4	260	219
3.	C84113	Mr.c.Sathishkumar	26/M	82	96	108	110	20	16	0.7	0.5	177	157
4.	C75090	Mrs.Malarvizhi	37/F	89	94	123	135	22	20	0.8	0.6	145	135
5.	C45590	MrsSelvaraj	59/M	102	93	111	99	19	21	0.6	0.6	148	130
6.	C79086	Mrs.Rajalakshmi	45/F	92	77	107	174	19	14	0.5	0.4	211	164
7.	C90595	Mrs.v.Rajeshwari	45/F	90	94	110	112	19	21	0.5	0.6	130	134
8.	C77145	Mr.Suresh	35/M	88	104	105	120	22	23	0.7	0.8	206	168
9.	C84474	Mr.G.Venkatesan	46/M	91	129	140	208	23	18	0.8	0.5	156	146
10.	C86259	Mrs.S.Neela	30/F	90	107	107	121	21	14	0.6	0.4	174	149
11.	C81508	Miss.K.Sumathi	40/F	75	99	126	116	15	24	0.5	0.7	158	156
12.	C71891	Mr.R.Velmurugan	31/M	101	95	120	110	17	18	0.5	0.8	161	188
13.	C87043	Mrs.Shanthisubramanian	49/M	92	76	107	92	15	16	0.9	0.5	240	218
14.	C72072	Mrs.Gowri	38/F	77	84	94	92	18	23	0.5	0.8	170	92
15.	C76072	Mrs.Rajakani	42/F	91	96	112	103	19	26	0.6	0.7	191	190
16.	C87323	Mrs.S.Kalaivani	33/F	102	76	129	119	25	13	0.7	0.5	141	163
17.	C64568	Mr.Balakrishnan	44/F	107	105	119	120	20	21	0.6	0.6	174	164
18.	C90595	Mrs.Bhavani	22/F	94	104	107	119	14	14	0.4	0.4	140	167
19.	C30459	Mr.Gnanaprakash	25/M	105	104	129	128	19	16	0.5	0.5	236	191
20.	C82864	Mrs.B.Krishnaveni	38/F	95	121	99	120	19	20	0.6	0.7	137	130

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S. No	IP No	NAME	AGE/ SEX	BLOOD GLUCOSE (F)		BLOOD GLUCOSE (PP)		UREA		CREATININE		TOTAL CHOLESTEROL	
				BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1.	3991	Mrs.K..Jesi	46/F	87	99	112	110	17	23	0.6	0.6	146	176
2.	4952	Mr.Jahir hussain	42/M	86	70	106	100	26	27	0.7	0.7	155	122
3.	4005	Mrs.Bhuvneshwari	32/M	74	88	93	100	14	15	0.5	0.4	146	164
4.	4006	Mrs.Gnanasoundari	34/F	81	100	98	106	18	14	0.6	0.4	204	212
5.	4981	Mr.Natarajan.R	45/M	85	108	116	133	36	16	0.9	0.5	145	130
6.	4022	Mrs.Rajeshwari	46/F	71	79	80	96	23	17	0.6	0.5	263	201
7.	4026	Mrs.P.Selvi	37/F	90	92	108	104	17	14	0.6	0.4	144	140
8.	4033	Mrs.Rajamma.R	52/F	98	101	171	181	16	14	0.7	0.4	147	168
9.	5001	Mr.S.V.Maheshwaran	50/M	91	79	101	109	29	36	0.8	1.0	135	110
10.	4045	Mrs.Alamelu	42/F	113	105	138	157	25	18	0.8	0.6	215	207
11.	4047	Mrs.Malliga	30/F	95	96	112	115	18	17	0.5	0.6	138	150
12.	4074	Mrs.Bakyavathy	52/F	82	109	101	121	14	14	0.4	0.5	211	233
13.	4104	Mr.K.Balu	41/M	101	100	116	121	16	14	0.5	0.4	185	178
14.	4104	Mrs.B.Selvi	39/F	82	66	113	105	33	22	0.9	0.7	210	160
15.	5083	Mr.T.Manimaran	44/M	90	99	148	173	15	16	0.4	0.5	208	208
16.	4157	Mrs.R.Gomathy	40/F	78	97	103	108	21	17	0.6	0.6	173	215
17.	4174	MrsDhanalakshmi	55/F	86	89	159	101	14	14	0.6	0.4	167	218
18.	4195	Mrs. Vanaroja	35/F	95	102	129	123	18	16	0.5	0.6	169	183
19.	4197	Mrs.P.Sridevibagavathy	30/F	102	90	120	103	14	14	0.4	0.4	103	162
20	4217	Mrs.D.Banu	40/F	87	79	124	120	17	21	0.6	0.6	169	172

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S.No	OP No	NAME	AGE/ SEX	Total bilirubin		Calcium		Phosphorus		Uric acid	
				BT	AT	BT	AT	BT	AT	BT	AT
1.	C82563	Mr.Vasanthakumar	35/M	1.0	0.9	9.8	10.9	3.2	2.9	8.4	7.3
2.	C75755	Mrs.Shanthi	49/F	0.4	0.5	9	10.9	2.5	2.9	3.9	3.8
3.	C84113	Mr.c.Sathishkumar	26/M	0.4	0.7	10.8	11.0	3.0	3.0	4.0	4.8
4.	C75090	Mrs.Malarvizhi	37/F	0.6	0.4	10.6	9.8	2.8	2.7	5.1	3.2
5.	C45590	MrsSelvaraj	59/M	0.7	0.7	9.8	9.6	2.6	2.7	3.3	3.2
6.	C79086	Mrs.Rajalakshmi	45/F	0.9	0.5	10.6	10.9	3.0	3.0	5.4	3.6
7.	C90595	Mrs.v.Rajeshwari	45/F	0.5	0.6	8.9	9.6	3.1	3.1	3.3	3.5
8.	C77145	Mr.Suresh	35/M	0.7	0.8	10.4	10.0	2.8	2.9	7.1	4.0
9.	C84474	Mr.G.Venkatesan	46/M	0.5	0.5	10.0	10.7	2.6	3.1	7.0	3.2
10.	C86259	Mrs.S.Neela	30/F	0.5	0.7	11.0	10.5	2.8	3.0	3.2	3.0
11.	C81508	Miss.K.Sumathi	40/F	1.1	0.5	10.0	10.7	4.0	2.8	5.7	5.0
12.	C71891	Mr.R.Velmugan	31/M	0.5	0.6	10.0	10.6	3.4	3.0	5.3	4.6
13.	C87043	Mrs.Shanthisubramanian	49/M	0.9	0.5	10.0	10.6	3.4	2.8	5.6	6.6
14.	C72072	Mrs.Gowri	38/F	0.7	0.5	9.0	10.2	2.5	3.1	4.7	4.6
15.	C76072	Mrs.Rajakani	42/F	0.8	0.4	10.2.3	10.3	3.0	2.9	3.3	6.0
16.	C87323	Mrs.S.Kalaivani	33/F	0.6	0.7	10.3	10.5	3.1	3.1	5.8	4.4
17.	C64568	Mr.Balakrishnan	44/F	0.9	1.0	9.3	9.5	3.0	3.1	5.9	5.0
18.	C90595	Mrs.Bhavani	22/F	0.4	0.7	9.8	10.7	2.9	3.1	4.1	3.6
19.	C30459	Mr.Gnanaprakash	25/M	0.6	0.6	9.9	10.3	2.8	3.3	7.2	6.2
20.	C82864	Mrs.B.Krishnaveni	38/F	0.6	0.6	9.8	9.7	4.1	3.4	6.4	2.9

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S.No	IP No	NAME	AGE/ SEX	Total bilirubin		Calcium		Phosphorus		Uric acid	
				BT	AT	BT	AT	BT	AT	BT	AT
1.	3991	Mrs.K..Jesi	46/F	0.6	0.6	9.7	10.5	2.2	3.1	3.1	3.1
2.	4952	Mr.Jahir hussain	42/M	0.5	0.8	10.0	10.5	2.4	2.0	4.2	4.0
3.	4005	Mrs.Bhuvneshwari	32/M	0.5	0.8	10.4	10.2	2.3	2.8	4.3	3.6
4.	4006	Mrs.Gnanasoundari	34/F	0.5	0.7	9.8	10.0	2.9	2.9	3.4	3.4
5.	4981	Mr.Natarajan.R	45/M	0.4	0.5	10.0	10.0	2.5	3.8	4.7	4.7
6.	4022	Mrs.Rajeshwari	46/F	0.5	0.5	11.2	11.0	2.9	3.1	3.8	3.0
7.	4026	Mrs.P.Selvi	37/F	0.6	0.5	10.6	10.7	4.0	3.0	3.0	3.4
8.	4033	Mrs.Rajamma.R	52/F	0.6	0.7	10.1	10.5	3.0	2.9	5.4	3.1
9.	5001	Mr.S.V.Maheshwaran	50/M	0.5	0.7	11.2	9.8	3.0	2.7	5.1	3.4
10.	4045	Mrs.Alamelu	42/F	0.4	0.8	11.8	11.1	3.0	3.2	3.4	3.5
11.	4047	Mrs.Malliga	30/F	0.4	0.4	7.0	9.0	2.5	3.0	3.5	3.5
12.	4074	Mrs.Bakyavathy	52/F	0.4	0.4	9.6	9.8	2.9	2.6	5.1	3.3
13.	4104	Mr.K.Balu	41/M	1.9	0.7	10.5	11.3	3.0	3.1	6.0	5.5
14.	4104	Mrs.B.Selvi	39/F	0.4	0.4	10.0	11.0	3.1	3.0	3.6	3.6
15.	5083	Mr.T.Manimaran	44/M	0.5	0.8	10.6	10.8	3.1	3.2	7.3	6.3
16.	4157	Mrs.R.Gomathy	40/F	0.4	0.7	10.6	11.0	3.1	3.0	3.0	3.4
17.	4174	MrsDhanalakshmi	55/F	0.5	0.7	10.2	10.0	2.9	2.9	3.0	3.4
18.	4195	Mrs.Vanaroja	35/F	0.4	0.7	11.0	10.3	3.2	3.0	3.2	3.1
19.	4197	Mrs.P.Sridevibagavathy	30/F	0.5	0.6	10.7	10.7	3.2	3.1	5.0	4.3
20	4217	Mrs.D.Banu	40/F	0.7	0.6	10.8	10.3	3.1	3.1	3.0	3.4

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S.No	OP No	NAME	AGE/ SEX	SGOT		SGPT		Alkaline phosphatase	
				BT	AT	BT	AT	BT	AT
1.	C82563	Mr.Vasanthakumar	35/M	27	23	28	24	148	160
2.	C75755	Mrs.Shanthi	49/F	34	25	45	27	253	176
3.	C84113	Mr.c.Sathishkumar	26/M	12	20	16	21	239	149
4.	C75090	Mrs.Malarvizhi	37/F	16	15	20	17	145	135
5.	C45590	MrsSelvaraj	59/M	13	32	14	34	148	130
6.	C79086	Mrs.Rajalakshmi	45/F	27	18	28	19	107	169
7.	C90595	Mrs.v.Rajeshwari	45/F	23	25	25	23	249	230
8.	C77145	Mr.Suresh	35/M	15	14	16	16	206	168
9.	C84474	Mr.G.Venkatesan	46/M	55	25	45	24	255	184
10.	C86259	Mrs.S.Neela	30/F	14	20	15	22	150	156
11.	C81508	Miss.K.Sumathi	40/F	27	15	37	16	189	152
12.	C71891	Mr.R.Velmurugan	31/M	38	21	56	22	235	196
13.	C87043	Mrs.Shanthisubramanian	49/M	9	18	11	21	156	174
14.	C72072	Mrs.Gowri	38/F	20	12	21	13	147	224
15.	C76072	Mrs.Rajakani	42/F	12	22	14	22	142	184
16.	C87323	Mrs.S.Kalaivani	33/F	16	16	17	17	155	155
17.	C64568	Mr.Balakrishnan	44/F	24	21	25	22	162	167
18.	C90595	Mrs.Bhavani	22/F	11	13	12	15	145	179
19.	C30459	Mr.Gnanaprakash	25/M	30	15	32	16	186	167
20.	C82864	Mrs.B.Krishnaveni	38/F	19	18	20	18	137	130

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S.No	IP No	NAME	AGE/ SEX	SGOT		SGPT		Alkaline phosphatase	
				BT	AT	BT	AT	BT	AT
1.	3991	Mrs.K..Jesi	46/F	15	18	16	20	139	152
2.	4952	Mr.Jahir hussain	42/M	14	33	15	19	152	163
3.	4005	Mrs.Bhuvneshwari	32/M	20	19	21	20	167	176
4.	4006	Mrs.Gnanasoundari	34/F	21	13	25	15	144	130
5.	4981	Mr.Natarajan.R	45/M	22	14	24	16	154	216
6.	4022	Mrs.Rajeshwari	46/F	41	17	38	19	210	170
7.	4026	Mrs.P.Selvi	37/F	18	14	20	16	198	138
8.	4033	Mrs.Rajamma.R	52/F	12	20	13	22	135	191
9.	5001	Mr.S.V.Maheshwaran	50/M	55	55	48	56	220	156
10.	4045	Mrs.Alamelu	42/F	14	11	18	12	167	189
11.	4047	Mrs.Malliga	30/F	27	12	28	14	172	140
12.	4074	Mrs.Bakyavathy	52/F	16	10	17	12	176	166
13.	4104	Mr.K.Balu	41/M	29	23	30	24	176	212
14.	4104	Mrs.B.Selvi	39/F	17	11	18	12	147	168
15.	5083	Mr.T.Manimaran	44/M	31	19	30	20	166	155
16.	4157	Mrs.R.Gomathy	40/F	30	16	34	19	202	183
17.	4174	MrsDhanalakshmi	55/F	26	27	34	35	187	187
18.	4195	Mrs.Vanaroja	35/F	15	13	17	15	187	147
19.	4197	Mrs.P.Sridevibagavathy	30/F	14	22	15	24	173	169
20	4217	Mrs.D.Banu	40/F	18	25	20	22	186	170

SEROLOGY : CRP, ASO titre, RA factor are negative in all the 40 cases before and after the treatment

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S. No	OP No	NAME	AGE / SEX	URINE SUGER (F)		URINE SUGER (PP)		ALBUMI N		DEPOSITS			
										Epithelial cells		Pus cells	
				BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1.	C82563	Mr.Vasanthakumar	35/M	nil	nil	nil	nil	nil	nil	2-3	1-2	2-3	2-3
2.	C75755	Mrs.Shanthi	49/F	nil	nil	nil	nil	nil	nil	2-3	1-2	2-3	1-2
3.	C84113	Mr.c.Sathishkumar	26/M	nil	nil	nil	nil	nil	nil	1-2	2-3	2-4	2-3
4.	C75090	Mrs.Malarvizhi	37/F	nil	nil	nil	nil	nil	nil	3-6	2-3	2-6	3-4
5.	C45590	MrsSelvaraj	59/M	nil	nil	nil	nil	nil	nil	2-3	2-4	2-3	1-2
6.	C79086	Mrs.Rajalakshmi	45/F	nil	nil	nil	nil	nil	nil	1-2	10-12	2-4	8-10
7.	C90595	Mrs.v.Rajeshwari	45/F	nil	nil	nil	nil	nil	nil	4-5	3-5	3-4	2-4
8.	C77145	Mr.Suresh	35/M	nil	nil	nil	nil	nil	nil	1-2	2-3	1-2	2-3
9.	C84474	Mr.G.Venkatesan	46/M	nil	nil	nil	nil	nil	nil	2-3	2-3	2-3	1-2
10.	C86259	Mrs.S.Neela	30/F	nil	nil	nil	nil	nil	nil	1-2	1-2	1-2	2-3
11.	C81508	Miss.K.Sumathi	40/F	nil	nil	nil	nil	nil	nil	2-4	2-3	1-2	1-2
12.	C71891	Mr.R.Velmurugan	31/M	nil	nil	nil	nil	nil	nil	1-2	1-2	1-2	2-3
13.	C87043	Mrs.Shanthisubramanian	49/M	nil	nil	nil	nil	nil	nil	2-4	10-12	1-2	10-12
14.	C72072	Mrs.Gowri	38/F	nil	nil	nil	nil	nil	nil	2-4	10-12	2-4	4-5
15.	C76072	Mrs.Rajakani	42/F	nil	nil	nil	nil	nil	nil	2-4	8-10	2-4	4-5
16.	C87323	Mrs.S.Kalaivani	33/F	nil	nil	nil	nil	nil	nil	2-4	2-3	1-2	3-4
17.	C64568	Mr.Balakrishnan	44/F	nil	nil	nil	nil	nil	nil	2-4	1-2	2-4	1-2
18.	C90595	Mrs.Bhavani	22/F	nil	nil	nil	nil	nil	nil	3-5	2-4	1-2	2-4
19.	C30459	Mr.Gnanaprakash	25/M	nil	nil	nil	nil	nil	nil	1-2	2-4	1-2	2-4
20.	C82864	Mrs.B.Krishnaveni	38/F	nil	nil	nil	nil	nil	nil	2-4	2-4	2-4	2-6

LABARATORY INVESTIGATIONS BEFORE AND AFTER TREATMENT

S. No	IP No	NAME	AGE/ SEX	URINE SUGER (F)		URINE SUGER (PP)		ALBUMIN		DEPOSITS			
										Epithelial cells		Pus cells	
				BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1.	3991	Mrs.K..Jesi	46/F	nil	nil	nil	nil	nil	nil	1-2	3-4	1-2	4-5
2.	4952	Mr.Jahir hussain	42/M	nil	nil	nil	nil	nil	nil	2-4	0-1	2-4	1-3
3.	4005	Mrs.Bhuvneshwari	32/M	nil	nil	nil	nil	nil	nil	1-2	2-4	2-4	2-4
4.	4006	Mrs.Gnanasoundari	34/F	nil	nil	nil	nil	nil	nil	1-2	6-8	1-2	3-6
5.	4981	Mr.Natarajan.R	45/M	nil	nil	nil	nil	nil	nil	2-4	1-2	1-2	2-3
6.	4022	Mrs.Rajeshwari	46/F	nil	nil	nil	nil	nil	nil	1-2	2-4	2-4	1-2
7.	4026	Mrs.P.Selvi	37/F	nil	nil	nil	nil	nil	nil	2-4	3-5	2-4	2-4
8.	4033	Mrs.Rajamma.R	52/F	nil	nil	nil	nil	nil	nil	4-5	2-4	2-3	2-4
9.	5001	Mr.S.V.Maheshwaran	50/M	nil	nil	nil	nil	nil	nil	2-3	3-4	2-3	3-4
10.	4045	Mrs.Alamelu	42/F	nil	nil	nil	nil	nil	nil	10-12	10-12	4-5	4-5
11.	4047	Mrs.Malliga	30/F	nil	nil	nil	nil	nil	nil	10-15	2-4	8-10	1-2
12.	4074	Mrs.Bakyavathy	52/F	nil	nil	nil	nil	nil	nil	1-3	2-4	1-2	2-4
13.	4104	Mr.K.Balu	41/M	nil	nil	nil	nil	nil	nil	2-4	2-4	2-4	2-4
14.	4104	Mrs.B.Selvi	39/F	nil	nil	nil	nil	nil	nil	1-2	4-8	1-2	3-6
15.	5083	Mr.T.Manimaran	44/M	nil	nil	nil	nil	nil	nil	1-2	3-6	1-2	3-6
16.	4157	Mrs.R.Gomathy	40/F	nil	nil	nil	nil	nil	nil	4-5	2-4	4-5	3-4
17.	4174	MrsDhanalakshmi	55/F	nil	nil	nil	nil	nil	nil	1-2	2-4	2-4	2-4
18.	4195	Mrs.Vanaroja	35/F	nil	nil	nil	nil	nil	nil	1-2	2-4	2-3	2-4
19.	4197	Mrs.P.Sridevibagavathy	30/F	nil	nil	nil	nil	nil	nil	2-4	2-4	1-2	2-4
20	4217	Mrs.D.Banu	40/F	nil	nil	nil	nil	nil	nil	3-5	2-3	2-4	2-3

CLINICAL IMPROVEMENT OP CASES

S. No	O.P NO	NAME	AGE/ SEX	DOA	DURATION OF ILLNESS	DAYS	RESULT
1.	C82563	Mr.Vasantha kumar	35/M	22.7.12	3 years	48	Moderate
2.	C75755	Mrs.Shanthi	49/F	22.7.12	1 years	48	Good
3.	C84113	Mr.Sathiskumar	26/F	24.7.12	1 years	48	Moderate
4.	C45590	Mrs. Malarvizhi	37/F	25.7.12	6months	48	Good
5.	C45590	Mr.Selvaraj	59/F	24.7.12	21/2 years	48	Moderate
6.	C79086	Mrs.Rajalakshmi	45/F	22.7.12	3 years	48	Mild
7.	C90595	Mrs.V.Rajeshwari	34/F	26.7.12	6months	48	Moderate
8.	C77145	Mr.Suresh	35/M	28.7.12	2 years	48	No
9.	C84474	Mr.G.Venkatesan	46/M	30.7.12	3 years	48	Good
10.	C86259	Mrs.S.Neela	30/F	31.7.12	6 months	48	Good
11.	C81508	Miss.K.Sumathi	40/F	31.7.12	4 years	48	Good
12.	C71891	Mr.Velmurugan	31/M	2.8.12	2 years	48	Good
13.	C87043	Mrs.Shanthisubramani	41/F	3.8.12	6months	48	Good
14.	C72057	Mrs.Gowri.N	38/F	6.8.12	5months	48	Moderate
15.	C76072	Mrs.S.Rajakani	42/F	6.8.12	6months	48	Moderate
16.	C87323	Mrs.S.Kalaivani	33/F	4.8.12	2months	48	Moderate
17.	C64568	Mr.Balakrishnan	44/M	7.8.12	1year	48	Good
18.	C90595	Mrs.Bhavani	22/F	19.8.12	6months	48	Good
19.	C30459	Mr.Gnanaprakash	25/M	20.8.12	18months	48	Mild
20.	C82864	Mrs.Krishnaveni.B	38/F	20.8.12	5months	48	Mild

CLINICAL IMPROVEMENT IP CASES

S. No	LP NO	NAME	AGE/ SEX	DOA	DURATION OF ILLNESS	DAYS	RESULT
1.	3991	Mrs.K.Jesi	40/F	23.7.12	2 years	48	Good
2.	4952	Mr.M.Jahir hussain	42/M	23.7.12	2 1/2years	48	Good
3.	4006	Mrs.V.Gnanasoundari	31/F	26.7.12	6 months	48	Good
4.	4005	Mrs.H.Bhuvneshwari	32/F	26.7.12	6months	48	Good
5.	4981	Mr.Nataraj	45/M	31.7.12	10 year	48	Good
6.	4022	Mrs.E.Rajeshwari	46/F	31.7.12	26 months	48	Mild
7.	4026	Mrs.P.Selvi	37/F	1.8.12	1year	48	No
8.	4033	Mrs.Rajamma.R	52/F	2.8.12	3years	48	Mild
9.	5001	Mr.S.V.Maheshwaran	50/M	3.8.12	1year	48	Mild
10.	4045	Mrs.Alamelu	42/F	6.8.12	11/2years	48	No
11.	4047	Mrs.Malliga	30/F	6.8.12	6months	48	Good
12.	4074	Mrs.Bakyavathy	52/F	15.8.12	6 months	48	Good
13.	4104	Mr.K.Balu	41/M	22.8.12	21/2years	48	Mild
14.	4108	Mrs.B.Selvi	39/F	23.8.12	6months	48	Moderate
15.	5083	Mr.T.Manimaran	44/M	30.3.12	5months	48	Good
16.	4157	Mrs.R.Gomathi	40/F	5.9.12	4 years	48	Mild
17.	4174	Mrs.Dhanalakshmi	55/F	10.9.12	2 years	48	No
18.	4195	Mrs.K.Vanaroja	35/F	19.9.12	11 months	48	Mild
19.	4197	Mrs.P.Sridevibagavathy	30/F	20.9.12	6 months	48	Good
20.	4217	Mrs.D.Banu	40/F	24.9.12	3 months	48	No

PAIN SCORE – OP PATIENTS:

S. No	OP No	NAME	AGE/SEX	LUMBAR PAIN		RADIATING PAIN		ROM		NUMBNESS	
				BT	AT	BT	AT	BT	AT	BT	AT
1	C82563	Mr.Vasanth kumar	35/M	5	3	2	0	G2	G2	G1	G1
2	C75755	Mrs.Shanthi	49/F	5	3	5	0	G2	G1	G2	G1
3	C84113	Mr.Sathiskumar	26/F	3	0	0	0	G2	G1	G1	G2
4	C45590	Mrs. Malarvizhi	37/F	6	0	6	4	G1	G1	G1	G1
5	C45590	Mr.Selvaraj	59/F	6	3	4	1	G2	G2	G2	G1
6	C79086	Mrs.Rajalakshmi	45/F	7	5	5	0	G2	G2	G2	G1
7	C90595	Mrs.V.Rajeshwari	34/F	9	9	5	5	G3	G3	G2	G2
8	C77145	Mr.Suresh	35/M	9	8	8	7	G3	G3	G3	G2
9	C84474	Mr.G.Venkatesan	46/M	6	4	7	5	G3	G3	G1	G1
10	C86259	Mrs.S.Neela	30/F	4	3	5	3	G2	G1	G2	G1
11	C81508	Miss.K.Sumathi	40/F	3	0	4	0	G2	G1	G3	G2
12	C71891	Mr. Velmurugan	31/M	6	4	7	4	G2	G2	G3	G2
13	C87043	Mrs.Shanthisubramaniam	41/F	4	0	6	0	G1	G1	G1	G1
14	C72057	Mrs.Gowri.N	38/F	5	0	5	0	G3	G3	G2	G1
15	C76072	Mrs.S.Rajakani	42/F	5	0	0	0	G2	G2	G2	G1
16	C87323	Mrs.S.Kalaivani	33/F	7	0	4	4	G1	G1	G1	G1
17	C64568	Mr.Balakrishnan	44/M	6	5	4	3	G1	G1	G2	G1
18	C90595	Mrs.Bhavani	22/F	3	0	2	0	G2	G1	G2	G1
19	C30459	Mr.Gnanaprakash	25/M	8	7	9	8	G1	G1	G1	G1
20	C82864	Mrs.Krishnaveni.B	38/F	6	4	4	3	G2	G2	G2	G1

PAIN SCORE – IP PATIENTS

S.No	IP No	NAME	AGE/ SEX	LUMBAR PAIN		RADIATING PAIN		ROM		NUMBNESS	
				BT	AT	BT	AT	B	A	BT	AT
1	3991	Mrs.K.Jesi	40/F	7	2	4	2	G ₂	G ₁	G2	G1
2	4952	Mr.M.Jahir hussain	42/M	6	3	4	4	G	G2	G3	G1
3	4006	Mrs.V.Gnanasoundari	31/F	6	0	5	1	G	G2	G2	G1
4	4005	Mrs.H.Bhuvneshwari	32/F	3	0	4	0	G	G1	G1	G1
5	4981	Mr.Nataraj	45/M	6	0	4	0	G	G2	G3	G2
6	4022	Mrs.E.Rajeshwari	46/F	9	8	6	2	G	G3	G3	G2
7	4026	Mrs.P.Selvi	37/F	9	9	3	0	G	G2	G2	G1
8	4033	Mrs.Rajamma.R	52/F	7	6	2	0	G	G2	G1	G1
9	5001	Mr.S.V.Maheshwaran	50/M	7	4	4	0	G	G3	G1	G1
10	4045	Mrs.Alamelu	42/F	7	6	5	0	G	G3	G1	G1
11	4047	Mrs.Malliga	30/F	5	0	3	0	G	G2	G3	G2
12	4074	Mrs.Bakyavathy	52/F	6	0	0	0	G	G2	G3	G2
13	4104	Mr.K.Balu	41/M	7	0	0	0	G	G2	G1	G1
14	4108	Mrs.B.Selvi	39/F	3	0	0	0	G	G1	G2	G1
15	5083	Mr.T.Manimaran	44/M	5	0	6	0	G	G2	G2	G1
16	4157	Mrs.R.Gomathi	40/F	7	0	3	0	G	G2	G1	G1
17	4174	Mrs.Dhanalakshmi	55/F	7	6	6	5	G	G2	G2	G1
18	4195	Mrs.K.Vanaroja	35/F	8	2	5	2	G	G2	G2	G2
19	4197	Mrs.P.Sridevibagavath	30/F	3	0	4	0	G	G1	G1	G1
20	4217	Mrs.D.Banu	40/F	7	3	5	2	G	G3	G3	G1

VARMAM TREATMENT ALONG WITH THE TRIAL DRUG

S.NO	IP No	NAME	AGE /SEX	LUMBAR PAIN		RADIATING PAIN	
				BT	AT	BT	AT
1	3991	Mrs.K.Jesi	40/F	6	2	3	0
2	4005	Mrs.Bhuvneshwari	32/F	6	0	3	1
3	4006	Mrs.Gnanasowndari	32/F	7	0	5	4
4	4022	Mrs.Rajeshwari	46/F	9	6	5	5
5	4026	Mrs.Selvi	37/F	9	7	5	5
6	4033	Mrs.Rajamma	52/F	7	6	4	2
7	4045	Mrs.Alamelu	42/F	7	6	4	0
8	4047	Mrs.Malliga	30/F	5	0	3	2
9	4074	Mrs.Bakyavathy	52/F	5	3	0	0
10	4157	Mrs.R,Gomathi	40/F	7	6	5	0

X - RAY FINDINGS OF LUMBO SACRAL SPINE

OP NO: C45590 59/F

ANTERO POSTERIOR VIEW



LATERAL VIEW



IP NO: 4022 46/F

ANTERO POSTERIOR VIEW



LATERAL VIEW



DISCUSSION

DISCUSSION

The retrospective review of the disease Thandaga vatham mentioned in Siddha literatures begins from the correlation of it to signs and symptoms of the disease lumbar spondylosis.

The drugs which possess anti-vatha property as mentioned in Siddha literature were selected and the trial drugs were prepared by the Author in the Gunapadam practical laboratory of National Institute of Siddha, after getting proper authentication of raw drugs from the medicinal botany department under the supervision of the members of the teaching faculty and guided by the Head of the Department of Sirappu Maruthuvam of the National Institute of Siddha, Chennai - 47.

40 patients of both genders were recruited for this study. Among 40 patients, 10 In-patients were treated with Varmam treatment along with the trial drugs.

The treatment was aimed at normalizing the deranged thodams and providing relief from symptoms. Before treatment the patients were advised to take Agasthiyar kuzhambu- 130 mg with ginger juice in early morning for purgation. The patient was advised to take rest without internal medicine and other activities on that day.

The patients were treated with trial drugs Akkini chooranam twice a day with honey and Kethaghi thailam (external) for 48 days. Patients were instructed to take the medicines regularly advised to follow pathiyam (avoid tamarind, tubers, etc) and advised to avoid weight bearing, and prolonged sitting. Out-Patients were asked to visit the hospital once in 7 days. For Out-Patients the drugs were given for 48 days and the clinical assessment was done on 0th day, 8th day, 15th day, 22th day, 29th day, 36th day, 43th day and 49th day.

For In-Patients the drugs were given for 48 days and the clinical assessment was done daily. 10 In-Patients were given varmam treatment along with their trial drugs. The results were compared day by day and at the end of the study. For In-Patients, who are not in a situation to stay in the hospital for a long time, were advised to attend the Out-Patient Department of Sirappu Maruthuvam for further follow-up.

After the treatment, the patients were advised to visit the Out-Patient ward of Department of Sirappu Maruthuvam for another 2 months for follow-up.

Among the 40 cases 13 (32.5%) were males and 27 (67.5%) were females..In this study majority affected sex is female (67.5%). The one of the common cause for this may be depletion of calcium from their body after menopause, more number of pregnancies and increased house hold works. From history taking these were concluded as the reasons for female predominance.

This study shows that the highest age distribution of Thandagavatham is between 31-40 years of age.

Most of the patients under this analysis were predominantly of Raso gunam assessed from interrogation and other observations.

In this study, the majority of cases (70%) were reported during Muthuvenil kaalam. 25% were reported during Kaar kaalam. Remaining 5% cases were reported during Koothir kaalam.

Most of the patients 36 (90%) were non vegetarians. Non vegetarian diet may be the cause for deposition of fat in adepose tissue and there by promoting obesity. This alters the weight transferring mechanism in lumbar vertebra, causing this disease.

In **Vatham** Viyanan and Samanan vayus were affected in all 40 cases. Abanan was affected in 4 cases, and Devathathan in 8 cases.

In **Pitham** Saathaga pitham was affected in all the 40 cases. Ranjaga pitham was affected in 3 cases.

In **Kabam** Santhigam was affected in all the 40 cases.

All cases were observed and examined by the eight clinical parameters of siddha system.

Naadi (Pulse reading) was observed in all 40 patients. 22 cases had Vatha pitham, 8 cases had Pitha vatham, 2 cases had Pitha kabam and 8 cases had Kaba pitham naadi.

In **Naa** 3 patients (7.5 %) had coated tongue.

In **Malam** 4 cases (10%) had constipation .

The **urine** of all the patients was in Elamanjal niram (Pale yellow coloured urine). In **Neikkuri (Oil on urine sign)** examination, oil spreads slowly in 18 cases indicates vitiation of vatham in the Thandaga vatham patients, in 12 cases it appeared like pearl and in rest of the 10 cases oil acquired a ring form. This reveals that most of the cases has derangement in vatham. In **Seven Udal kattugal** Enbu and Saaram were

affected in all 40 cases (100%), Senneer was affected in 3 cases (7.5%), Oon was affected in 23 cases (57.5%) and Kozhuppu was affected in 37 cases (92.5%).

In **kanmenthiriangal** Kaal was affected in 40 cases (100%), Kai was affected in 2 cases (5%) and Eruvai was affected in 4 cases (10%).

In **clinical features** Pain in the lumbar region was present in all the 40 cases (100%). Radiating pain to the buttocks and lower limbs was present in 35 cases (87.5%). 7 cases (17.5%) had diffuse tenderness in lumbar region with limitation of movements. The other important features were stiffness of lumbar region in 12 cases (30%). Exacerbation of pain on movements in 37 cases (92.5%), Numbness and paraesthesia in 26 cases (65%).

Already it was explained that aging is the most common cause for Thandagavatham. Apart from that, increased household works, Obesity and menopause are the other precipitating factors.

Household work accounts for the highest number (47.5%) of cases. More weight bearing, improper posture of spine, laxity of lumbar vertebral column during delivery also produces the impact.

Laboratory investigation of blood and urine were done for all 40 cases. There were no significant changes in blood and urine parameters before and after treatment.

The radiographic studies of the cases showed narrowed joint space and presence of osteophytes. The trial drug showed improvement in prognosis of the disease clinically.

On the basis of curative effect of the trial drugs, Good improvement was assessed in 18 Patients (45%), Moderate improvement was assessed in 9 patients (22.5%), Mild improvement in 8 patients (20%) and No improvement was assessed in 5 patients (12.5%).

10 IP patients are given Varmam treatment along with the trial drug. The remaining 10 IP patients received only trial medicines. The results are compared day by day and at the end of the study. Patients treated with Varmam showed very good results since there is marked reduction in the Pain of Thandagavatham in this clinical trial.

The mean pain score before treatment is 5.95, after treatment it is reduced to 2.68. Hence this study reveals Varmam treatment along with trial medicines is to be very effective in the treatment of Thandagavatham.

The acute toxicity study was conducted for the trial drug Akkini chooranam in National Institute of Siddha and it showed no abnormal results. Hence the safety of the trial drug was also proved.

SUMMARY

SUMMARY

The 40 cases of Thandagavatham were diagnosed clinically and 20 cases of them were admitted and treated with the trial drugs in the Inpatient ward and the rest were treated in outpatient department of Sirappu Maruthuvam in Ayothidoss Pandithar Hospital attached to National Institute of siddha, Tamabaram Sanitorium, Chennai - 47.

Among the 20 Ip patients, 10 IP patients were treated by varmam treatment along with the trial medicine for 48 days. Rest of 10 Ip patients were treated with trial drug alone. 20 cases were treated in the Out-Patient Department for 48 days only with the trial drugs.

The various Siddha methods of examination of the disease were carried out and the data were recorded in the prescribed Proforma for the 40 selected cases.

A day before starting the treatment purgation was given by administering Agasthiyar kuzhambu- 130 mg with ginger juice in early morning for purgation to bring the Thirithodam to equilibrium.

From the second day onwards Akkini chooranam 1.5gm (twice a day) along with hot water was given internally and Kethaghi thailam for external use were given to the patients.

During the period of treatment all the patients were put under Pathiyam (specific dietary regimen chat for the disease given to each patients).

Laboratory investigations were done periodically for all the cases before and after treatment and radiological investigations were done for all the cases before treatment.

The observations made during the clinical study showed that internal and external drugs were effective in relieving the pain in Thandaga vatham patients.

However there is recurrence of 1 or 2 symptoms over months in some of the patients who engage themselves to their fast and mechanical lifestyle. The patients in whom the symptoms recurred were housewives, after their discharge from hospital and they continued doing their households works asusual.

As per our Siddha literatures, the ingredients of the trial medicines were found to have the property of controlling Vatha Diseases.

10 IP patients are given Varmam treatment along with the trial drug. The remaining 10 IP patients received only trial medicines. The results are compared at the end of the study. Patients treated with Varmam showed very good results since there is marked reduction in the Pain of Thandagavatham in this clinical trial.

The mean pain score before treatment is 5.95, after treatment it is reduced to 2.68. Hence this study reveals Varmam treatment along with trial medicines is to be very effective in the treatment of Thandaga vatham

The outcome of the trial medicine was assessed by grading method and the results were as follows:

Good improvement	-	18 patients (45%)
Moderate improvement	-	9 patients (22.5%)
Mild improvement	-	8 patients (20%)
No improvement	-	5 patients (12.5%)

CONCLUSION

CONCLUSION

The results of the clinical trial indicate that the trial drugs are clinically effective in Thandaga vatham patients. No adverse effects were reported during the course of treatment and there were no significant variations seen in hepatic and renal studies before and after the treatment.

The qualitative and quantitative study on the trial drug revealed that the drug does not contain any heavy metals and the trial drug answered for the presence of calcium, ferrous iron, sulphate, phosphate, nitrate, carbonate, and chloride.

The acute toxic animal studies also showed no abnormal results.

The trial drug has shown Good improvement in 18 patients (45%), Moderate improvement in 9 patients (22.5%), Mild improvement in 8 patients (20%), No improvement in 5 patients (12.5%).

The mean pain score before treatment is 5.95, after treatment it is reduced to 2.68. Hence this study reveals Varmam treatment along with trial medicines is to be very effective in the treatment of Thandaga vatham.

Hence the trial drugs were found to be very safe and effective in treating Thandaga vatham.

The patients who were treated with varmam in addition to trial medicines were benefited much and recovered from the illness very fast. So in forthcoming days varmam treatment shall be enlightened along with medication.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Agathiyar Vaithiya Rathina Churukkam
- Sarabenthirar Vaithiya Muraikal(vatharoga sikichai)
- Agathiyar Kanma Kaandam
- Agathiyar Vaithiya Kaaviyam -1500
- Agathiyar gunavagadam
- Gunapadam Mooligai Vaguppu
- Gunapadam Thathu Jeeva Vaguppu - Dr.R.Thiyagarajan
- Noi Nadal Noi Mudhal Naadal Thiratu Part I and II – Dr.M.Shanmugavelu
- Pathartha Guna Chinthamani – R.C.Mohan
- Pararasa Segaram
- Sattamuni Gnanam
- Sarakku Sutthi Sei Muraigal –Siddha maruthuva nool veliettu pirivu
- Siddha Maruthuvaanga Surukkam- Dr.K.S.Uthamarayan
- Siddha Maruthuvam (Pothu) –Dr.N.Kuppusamy Muthaliyar
- Siddha Maruthuvam (Sirappu)- Dr.R.Thiyagarajan
- Siddha medicine Volume III (Special areas) – Tamizh valarchi kazhagam
- Siddha principles of social and preventive medicine – Dr.G.Durairasan
- Siddha Vaithiya Pathartha Guna Velakkam – C . Kannusamy pillai
- Sigicha Rathina Deepam ennum Vaithiya Nool
- Thaerayar Vaagadam
- Thirukkural
- T.V.Sambasivam Pillai Dictionary, Volume 4, Part I
- Varmam Maruthuvam sirappu - T.Kannan Rajaram
- Varmam Pullikalin Iruppidam
- Varmam Kannadi
- Varmam maruthuvathin adippadaikal - T.Kannan Rajaram
- Vatha Noi Maruthuvam –Dr.S.Chidambarathaanu pillai
- Yugi Munivar Perunool Kaaviyam
- Yugi Vaithiya Chinthamani

- Davidson's principles and practice of medicine.
- Text book of orthopedics and traumatology – Prof.Mayilvahanan Natarajan
- Text book of orthopedics and traumatology – John Ebnezar
- Text book of Human Anatomy – T.S.Ranganathan
- Text book of Medicine – P.C.Das and P.K.Das
- Text book of orthopedics and trauma – Kulkarni
- [http: emedicine.medscape.com/article](http://emedicine.medscape.com/article)
- www.springerlink.com,www.kathrynalexander.com
- www.-pubmedcentral.nih.gov,www.herbs2000.com

ANNEXURE CERTIFICATE



NATIONAL INSTITUTE OF SIDDHA

(An Autonomous Body under Department of AYUSH)
Ministry Of Health & Family Welfare, Government of India

Tambaram Sanatorium, Chennai - 600 047
Tel : 044-22411611 Fax : 044-22381314
E-mail : nischennaisiddha@yahoo.co.in
Website : www.nischennai.org

Name: Dr. P. SHIV Reg. No: 32102205
Title: PRECLINICAL AND CLINICAL STUDY ON "AKKINI CHOORANAM"
(Internal) AND "KETHAGHI THYLAM" (External) FOR THE TREATMENT OF
"THANDAGAVATHAM" (LUMBAR SPONDYLOSIS).
No. NIS/IEC/2011/3/21 - 24/12/2011

DECISION

Opinion of the Institutional Ethics Committee – Please Check one

☒ Approval

☐ Modifications required prior to approval (Please specify one space below)

☐ Disapproval

Date of review: _____

K. Manickavasakam
(Dr. K. MANICKAVASAKAM)
Member Secretary

Signed: S. Subramanian (Please print name) Dr. V. SUBRAMANIAN
Chair Person

(Please delete as appropriate, Chairperson, Secretary)

Modifications needed

Modification given to candidate

The research proponent is hereby informed that the Institutional Ethics Committee will require the following:

1. All adverse drug reactions (ADRs) that are both serious and unexpected to be reported promptly to the IEC within 7 working days
2. The progress report to be submitted to the IEC atleast annually
3. Upon completion of the study, a final study status report needs to submitted to the IEC

IAEC PROTOCOL No: 1248/ae/09/CPCSEA/4-21/2011

20/12/2011

CERTIFICATE

This is certify that the project title... Preclinical and clinical Study on
"AKKINTI CHOORANAM" (Internal Medicine) and "KETHAGHI THYLAM"
(External Medicine) for the treatment of "THANDAGI VATHAM"
(LUMBAR SPONDYLOSIS)

has been approved by the IAEC.

Prof. Dr. K. Marickavasa Kam

Dr. B. Jayachandran Dare

Name of Chairman/Member Secretary IAEC:

Name of CPCSEA nominee:

Signature with date

K. Marickavasa Kam

B. Jayachandran Dare

Chairman/Member Secretary of IAEC:

CPCSEA nominee:

(Kindly make sure that minutes of the meeting duly signed by all the participants are maintained by Office)



The Tamil Nadu Dr. M.G.R. Medical University
69, Anna Salai, Guindy, Chennai-600 032

This Certificate is awarded to Dr. **R. SELVI**.....

for participating as a **Resource Person** / Delegate in the VI Workshop on

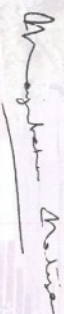
"Research Methodology & Biostatistics"

for AYUSH Post-Graduates & Researchers

Organized by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University

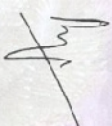
from 12th September 2011 to 16th September 2011



Dr. MAMILVAHANAN NATARAJAN

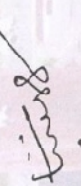
M.Sc.(Orth. M.Ch.Orth. (L.pool) Ph.D. D.Sc. F.R.C.S. D.Sc. (Hon)³

VICE CHANCELLOR



Dr. SUDHA SESHAYYAN, M.S.

REGISTRAR (FAC)



Dr. N. KABILAN, M.D. (Siddha)

READER, DEPT. OF SIDDHA



NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

CERTIFICATE OF BOTANICAL AUTHENTICITY

Certified that the following plant drugs used in the Siddha formulation **Akkini Chooranam** (Internal) and **Kethaghi Thailam** (External) for the treatment of **Thandaga Vatham** (Lumbar spondylosis) taken up for Post Graduation Dissertation studies by **Dr.R.Selvi, M.D.(S)**, II year, Department of Sirappu Maruthuvam, 2011-12, are identified and authenticated through Visual inspection / Experience, Education & Training/ Organoleptic characters/ Morphology / Micromorphology / Taxonomical/ Microscopical methods.

Plumbago indica Linn. (Plumbaginaceae), Root

Zingiber officinale Rosc. (Zingiberaceae), Rhizome

Piper nigrum Linn. (Piperaceae), Fruit

Piper longum Linn. (Piperaceae), Fruit

Clerodendrum serratum Linn. (Verbenaceae), Root

Scindapsus officinalis Schott. (Araceae), Fruit

Costus speciosus (Koen.) Sm. (Costaceae), Rhizome

Trachyspermum ammi (Linn.) Sprague (Apiaceae), Fruit

Ferula foetida Regel. (Apiaceae), Gum-oleoresin

Acorus calamus Linn. (Araceae), Rhizome

Brassica juncea (Linn.) Czern. & Coss. (Brassicaceae), Seed

Syzygium aromaticum (Linn.) Merr. & L.M. Perry (Myrtaceae), dried flower bud

Plectranthus vettiveroides (Jacob) N.P.Singh & B.D.Sharma (Lamiaceae), Root

Cyperus rotundus Linn. (Cyperaceae), Root tuber

Glycyrrhiza glabra Linn. (Fabaceae), Root

Santalum album Linn. (Santalaceae), Heart wood

Elettaria cardamomum Maton. (Zingiberaceae), Seed

Vetiveria zizanoides (Linn.) Nash (Poaceae), Root


Cedrus deodara (Roxb.) Loud

Taxus baccata Linn. (Taxaceae), Leaf

Certificate No: NIS/MB/47/2012

Date: 12-6-12




Authorized Signatory
Dr. D. ARAVIND, M.D.(s), M.Sc.,
Assistant Professor
Department of Medicinal Botany
National Institute of Siddha
Chennai - 600 047, INDIA



சித்த மருத்துவ மைய ஆராய்ச்சி நிலையம், அரும்பாக்கம், சென்னை - 600 106

सिद्ध केन्द्रीय अनुसंधान संस्थान, अरुम्बाक्कम, चेन्नई- 600 106

Siddha Central Research Institute

Arignar Anna Govt. Hospital Campus, Arumbakkam, Chennai-600 106

(Central Council for Research in Siddha, Department of AYUSH,

Ministry of Health & Family Welfare, Govt. of India)

Phone: 044-26214925, Tele Fax: 044-26214809, E.mail: crisiddha@gmail.com, Web: www.crisiddha.tn.nic.in

07.03.2012

CERTIFICATE

Certified that the minerals submitted for identification by Dr.R.Selvi, II year M.D (Siddha), National Institute of Siddha, Tambaram Sanatorium, Chennai-47 are identified as Indhuppu - Sodium chloride and Sottruppu - Sodium chloride.

(R.Shakila)
Research Officer (Chemistry)

(K.Meenakshi Sundara Moorthy)
Asst. Director- In charge

ANNEXURE

**PHARMACOLOGICAL AND
TOXICOLOGICAL ANALYSIS**

1.5 Acute oral toxicity study

NATIONAL INSTITUTE OF SIDDHA

ACUTE TOXICITY STUDY OF AKKINI CHOORANAM

[WHO guidelines, 1993]

Principle:

Acute toxicity was carried out in Swiss albino mice with a single exposure of 10 times of the recommended therapeutic dose of test compound the study duration will be 14 days.

Animal species	:	Swiss albino mice
Age / Weight / Size	:	6 weeks. Mice-20-25 gms.
Gender	:	Both male and female
Number of Animals	:	Mice: 10
Acclimatization Period	:	7 Days
Clinical dose	:	3.0 gms\day

S.No	Group	No of mice
1	Vehicle control (saline)	10 (5 male, 5 female)
2	Toxic dose 10X therapeutic dose (4.68mg)	10 (5 male, 5 female)

Test Animals

Test animals were obtained from the animal laboratory of the King institute, Chennai and stocked at National institute of siddha, Chennai. All the animals were kept under standard environmental condition (27+ or – 2 degree c).The animals had free access to water and standard pellet diet (Sai Durga foods pvt.ltd, Bangalore).The principles of laboratory animal care were followed and the Institutional ethical committee approved the use of animals and the study design. (1248/ac/09/CPCSEA/February/ 2012)

Route of administration:

Oral route was selected, because it is the normal route of clinical administration.

Test substance and vehicle

Akkini chooranam is Brown in colour. The test substance is insoluble in water, in order to obtain and ensure the uniformity in drug distribution the drug is dissolved by aqueous Tween 80 solution (10%).

Administration of doses

Akkini chooranam was suspended in aqueous Tween 80 solution (10%), with uniform mixing and it was administered to the groups in a single oral dose. The control groups were received equal volume of the vehicle. The animals were weighed before giving the drug. The dose level was calculated according to body weight, and surface area. Since the clinical dose was 3.0gms/day it was converted to animal dose (0.054mg) and then administered. The principle of laboratory animal care was followed.

Observations

Observations were made and recorded systematically and continuously observed as per the guideline after substance administration. The animals were monitored for behavioural parameters like

1. Awareness

- Alertness
- Visual placing
- Stereotype
- Passivity

2. Mood

- Grooming
- Restlessness
- Irritability
- Fearfulness

3. Motor activity

- Spontaneous activity
- Reactivity
- Touch response
- Pain response.

Animals were observed for body weight and mortality for 14 days. If animals died during the period of study, the animals were sacrificed. At the end of the 14th day all animals were sacrificed and necropsy was done.

Body Weight

Individual weight of animals was determined before the test substance was administered and daily for 14 days. Weight changes were calculated and recorded. At the end of the test, surviving animals were weighed and sacrificed.

Results:

Akkini chooranam at the dose 0.054mg/animal did not exhibit any mortality in mice.

No behavior changes were noted for the first 4 hours and for the next 24 hours and throughout the study period of 14 days. No weight reduction was noted before and after the acute study duration. Reflexes were found to be normal before and after the study. All other observations were found to be normal before and after the study. In Necropsy, the organs of the animal such as, Liver, Heart, Lungs, Pancreas, Spleen, Stomach, Intestine, Kidney, Urinary bladder, Uterus all appeared normal.

1.0 MATERIALS AND METHODS

1.1 Test Drugs

The medicine Akkini chooranam used in the study was processed by the method prescribed in standard Siddha text book Agasthiyar vaithiya rathina churukkam.

1.2.Preliminary phyto-chemical screening

Preliminary qualitative phyto-chemical tests procedure and interpretation of results

PROCEDURE	OBSERVATION	INFERENCE
Test for Calcium : 2 ml of extract is taken in a clean test tube. To this add 2 ml of 4% ammonium oxide solution.	White precipitate is formed	Presence of calcium
Test for Sulphate : 2 ml of the extract is added to 5 % barium chloride solution.	White precipitate is formed	Presence of Sulphate
Test for Chloride : The extract is treated with Silver nitrate solution	White precipitate is formed	Presence of Chloride
Test for carbonate : The substance is treated with Conc. HCl.	No effervescence is formed	Absence of carbonate
Test for Starch : The extract is added with weak iodine solution	No blue colour is formed	Absence of starch
Test for Iron (Ferric) : The extract is treated with glacial acetic	No blue colour is formed	Absence of Ferric iron

acid and potassium ferrocyanide		
Test for Iron (Ferrous) : The extract is treated with Conc. HNO_3 and ammonium thiocyanate	Brick red colour is formed	Presence of Ferrous iron
Test for phosphate : The extract is treated with ammonium molybdate and conc. HNO_3	Yellow precipitate is formed	Presence of phosphate
Test for Tannic acid : The extract is treated with Ferric chloride	No Blue black precipitate is formed	Absence of Tannic acid
Test for Unsaturation : 1 ml of Potassium permanganate solution is added to the extract.	Does not get decolourised	Absence of unsaturated compound
Test for saponins: Dilute extract+ 1ml of distilled water shake well.	No Froth formation	Absence of saponins
Test for sugars : Benedict method ; 5ml of Benedict solution heated gently then add 8 drops of diluted extract then heated in a boiling water bath. Molisch test; Dilute extract+2 drops of Molisch+3ml conc. H_2SO_4 .	No colour change No Reddish violet zones appeared	Indicates the Absence of sugar Absence of carbohydrate
Test for steroids : Lieberman Burchard test ; Dilute extract +2 ml acetic anhydride+conc. H_2SO_4 .	No Formation of red colour	Absence of steroids

Test for amino acids: Dilute extract +2ml of Ninhydrin's soln .	No Formation of violet colour	Absence of amino acids
Test for proteins: Biuret method ; 1ml of dilute extract+1ml of 5% CuSO ₄ + 1% NaOH.	No Formation of Violet colour	Absence of proteins
Test for Flavanoids : Dilute extract+ mg bits+2drops of conc.HCl and gently heated.	No formation of pink colour	Absence of Flavanoids
Test for phenol; Dilute extract+2drops of FeCl ₃ soln.	No Deep green colour is formed	Absence of phenols
Test for Tannins ; Dilute extract +2ml of 10% lead acetate add.	No White precipitate formed	Absence of tannins
Test for alkaloids; Mayer's method; 1ml of dilute extract + 1ml reagent. Dragendroff's method; 1ml of dilute extract+ 1ml of reagent.	Appearance of cream colour precipitate Appearance of orange colour precipitate	Presence of alkaloids Presence of alkaloids

ANNEXURE

CASE SHEET PROFORMA

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM”
(INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE
TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM I - SCREENING & SELECTION PROFORMA

1. SI. NO : 2. OP /IP NO :.....

3. NAME :.....

4. AGE : 5. GENDER :

6. OCCUPATION : 7. INCOME :

8. ADDRESS :

.....

.....

9. CONTACT NO :

9. INCLUSION CRITERIA

Whether the age is between: 20-65 yrs	Yes/ No
Sex both male and female	Male/ Female
History of trauma	Yes/ No
Pain in lumbar region	Yes/ No
Radiating pain to buttocks and lower limbs	Yes/ No
Diffuse tenderness in lumbar region with limitation of movements	Yes/ No
Numbness in right/ left lower limb or both lower limb	Yes/No
Stiffness of lumbar spine	Yes/ No

Exacerbation of pain on movements	Yes/ No
Paraesthesia and numbness on affected area	Yes/ No
Willing to undergo radiological and investigation	Yes/ No
Willing to sign the informed consent	Yes/ No

10. EXCLUSION CRITERIA

Cardiac disease	Yes/ No
Hypertension	Yes/ No
Diabetes mellitus	Yes/ No
Use of narcotic drugs	Yes/ No
Pregnancy and lactation	Yes/ No
Spina bifida	Yes/ No
Osteomyelitis	Yes/ No
Ankylosing spondylitis	Yes/ No
Tuberculosis of spine	Yes/ No
Patient with any other serious illness	Yes/No

ADMITTED TO TRIAL:

	YES	NO
	<input type="checkbox"/>	<input type="checkbox"/>
If yes,	OPD	IPD
	<input type="checkbox"/>	<input type="checkbox"/>

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM” (INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM II – HISTORY TAKING PROFORMA

1. SI. NO : 2. OP /IP NO :.....
3. NAME :
4. AGE : 5. GENDER :
6. OCCUPATION : 7. INCOME :
.....

7.COMPLAINTS & DURATION:

8. PERSONAL HISTORY:

PERSONAL HABITS	YES	NO	IF YES, SPECIFY DURATION/QUANTITY
Smoking			
Tobacco Chewing			
Alcoholism			
Narcotic drugs			

9. HISTORY OF PREVIOUS ILLNESS:

10. FAMILY HISTORY:

Whether this problem runs in family?

1. Yes ☐

2.No ☐

If yes, mention the relationship of affected person(s)

1. _____

2. _____

3. _____

11. DIETARY HABIT:

1. Vegetarian ☐

2. Non-vegetarian ☐

12. MENSTRUAL AND OBSTETRIC HISTORY:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM
--

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM” (INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM III - CLINICAL ASSESSMENT PROFORMA

1. SI. NO : 2. OP /IP NO :.....
3. NAME :
4. AGE : 5. GENDER :
6. OCCUPATION : 7. INCOME :

GENERAL EXAMINATION:

Height (Cms) :

Weight (kg) :

Temperature(°F) :

Pulse rate(/min) :

Heart rate(/min) :

Respiratory rate(/min) :

Blood pressure(mm/Hg) :

	Present	Absent
Pallor	<input type="checkbox"/>	<input type="checkbox"/>
Jaundice	<input type="checkbox"/>	<input type="checkbox"/>
Cyanosis	<input type="checkbox"/>	<input type="checkbox"/>
Lymphadenopathy	<input type="checkbox"/>	<input type="checkbox"/>
Pedal edema	<input type="checkbox"/>	<input type="checkbox"/>
Clubbing	<input type="checkbox"/>	<input type="checkbox"/>
Jugular vein pulsation	<input type="checkbox"/>	<input type="checkbox"/>

SYSTEMIC EXAMINATION

Cardio vascular System :
Respiratory system :
Gastro-intestinal system :
Central Nervous System :
Urogenital system :
Endocrine System :

A. CLINICAL ASSESSMENT: PAIN:

1. Pain in the lumbar region: No ☐ Mild ☐
Moderate ☐ Severe ☐
Onset: Sudden ☐ Gradual ☐
Type of pain: Local ☐ Diffuse ☐ Others ☐
2. Nature of pain: Shooting ☐ Burning ☐ Others ☐
3. Radiating pain to buttocks Right ☐ Left ☐ Both ☐
and lower limbs:
4. Pain in hip joint Right ☐ Left ☐ Both ☐
5. Aggravating factor: Movements Yes ☐ No ☐
6. Relieving factor: Rest Yes ☐ No ☐

EXAMINATION OF LOCOMOTOR SYSTEM

Clinical symptoms	0th day	8th day	15th day	22th day	29th day	36th day	43th day	49th day
Pain in lumbar region								
Radiating pain to buttocks & lower								
Exacerbation of pain on movements								
Pain increased on prolonged sitting								
Paraesthesia and numbness in affected area								
Muscular spasm								
Stiffness of lumbar spine								

CLINICAL EXAMINATION

I. INSPECTION

	0 th day	8 th day	15 th day	22 th day	29 th day	36 th day	43 th day	49 th day
Attitude								
Spine curvature								
Muscle wasting								

II. PALPATION

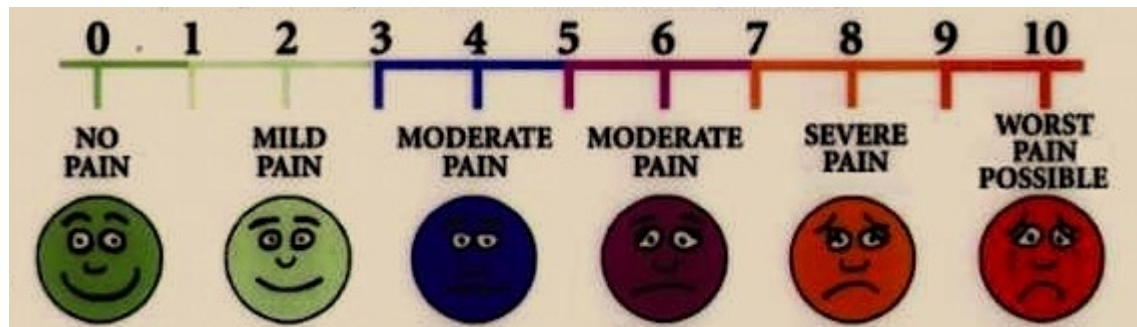
	0 th day	8 th day	15 th day	22 th day	29 th day	36 th day	43 th day	49 th day
Tenderness								
Muscle spasm								
Local heat								

III. MOVEMENTS

Restriction of Movements Lumbar: Full ☐ Partial ☐ No ☐

	0 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	49 th day
Rotation								
Flexion								
Extension								
Lateral bending								

UNIVERSAL PAIN ASSESMENT SCALE:



0 : No Pain

1-3 : Mild pain

4-6 : Moderate pain

7-10 : Severe pain

[Ref: communication technology & society. <http://pectlab-dev.spcomm.uiuc.edu/drupal/> (submitted by DIMO 17 on wed, 03/09/2011)]

RESTRICTED MOVEMENT ASSESSMENT SCALE:

GRADATION OF MOVEMENTS

GRADE I - Fit for all activities. Can do their work without support

GRADE II - Mild restriction of movements, occasional numbness

GRADE III - Moderate restriction of movements, stiffness, numbness.

GRADE IV - Bed ridden / confined to chair.

NEUROLOGICAL EXAMINATION:

	0 th Day	8 th day	15 th day	22 th day	29 th day	36 th day	43 th day	49 th day
Sensation								
Tone								
Power								
Nutrition								

AUTONOMIC NERVOUS SYSTEM

	0 th day	8 th day	15 th day	22 th day	29 th day	36 th day	43 th day	49 th day
Bladder								
Bowel								

REFLEXES:

	0 th day	8 th day	15 th day	22 th day	29 th day	36 th day	43 th day	49 th day
Ankle jerk								
Knee jerk								
Abdominal reflex								
Plantar reflex								

SIDDHA SYSTEM OF EXAMINATIONS:

1. THEGI: [BODY CONSTITUTION]

- 1.Vatha udal 2.Pitha udal
 3.Kaba udal 4.Thontha udal

2. NILAM: [LAND WHERE PATIENT LIVED MOST]

- 1.Kurinji 2.Mullai 3.Marutham 4.Neithal 5.Paalai
 (Hilly terrain) (Forest range) (Plains) (Coastal belt) (Arid regions)

3. KAALAM:

- | | | | |
|-------------------|----------------------|----------------------|----------------------|
| 1. Kaar kaalam | <input type="text"/> | 4. Pinpani kaalam | <input type="text"/> |
| 2. Koothir kaalam | <input type="text"/> | 5. Ilavenil kaalam | <input type="text"/> |
| 3. Munpani kaalam | <input type="text"/> | 6. Muthuvenil kaalam | <input type="text"/> |

4. GUNAM:

- | | | | | | |
|------------|----------------------|-------------|----------------------|---------------|----------------------|
| 1.Sathuvam | <input type="text"/> | 2.Raasatham | <input type="text"/> | 3.Thaaamatham | <input type="text"/> |
|------------|----------------------|-------------|----------------------|---------------|----------------------|

5. IMPORIGAL (SENSORY ORGANS):

	Before treatment	After treatment
Mei	Normal/Affected	Normal/Affected
Vaai	Normal/Affected	Normal/Affected
Kann	Normal/Affected	Normal/Affected
Mooku	Normal/Affected	Normal/Affected
Sevi	Normal/Affected	Normal/Affected

6. KANMENDHIRIYAM (MOTOR ORGANS):

	0 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	49 th day
Kai								
Kaal								
Vaai								
Eruvai								
Karuvai								

7. KOSANGAL (SHEATH):

	Before treatment	After treatment
Annamaya kosam	Normal/Affected	Normal/Affected
Pranamaya kosam	Normal/Affected	Normal/Affected
Manomaya kosam	Normal/Affected	Normal/Affected
Vignanamaya kosam	Normal/Affected	Normal/Affected
Ananthamaya kosam	Normal/Affected	Normal/Affected

8. UYIR THAATHUKKAL: [THREE HUMORS] (VALI, AZHAL, IYAM)**A) VALI**

	0th day	8th day	15th day	22nd day	29th day	36th day	43rd day	49th day
Praanan								
Abaanan								
Samaanan								
Udhaanan								
Viyaanan								
Naagan								
Koorman								
Kirukaran								
Devathathan								
Dhananjeyan								

B) AZHAL

	0 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	49 th day
Analakam								
Ranjakam								
Saathakam								
Prasakam								
Aalosakam								

C) IYAM

	0 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	49 th day
Avalambagam								
Kilethagam								
Pothagam								
Tharpagam								
Santhigam								

9. SEVEN UDAL THATHUKKAL: (SEVEN SOMATIC COMPONENTS)

	Before treatment	After treatment
Saaram	Normal/Affected	Normal/Affected
Senneer	Normal/Affected	Normal/Affected
Oon	Normal/Affected	Normal/Affected
Kozhuppu	Normal/Affected	Normal/Affected
Enbu	Normal/Affected	Normal/Affected
Moolai	Normal/Affected	Normal/Affected
Sukkilam/ Suronitham	Normal/Affected	Normal/Affected

10. ENVAGAI THERVU:

I. NAADI: [PULSE PERCEPTION]

Naadi Nadai	0 th day	8 th Day	15 th Day	22 th day	29 th day	36 th day	43 th Day	49 th day

II .SPARISAM

Sparisam	0 th Day	8 th Day	15 th Day	22 th day	29 th day	36 th day	43 th Day	49 th day

III. NAA:[TONGUE]

Naa	0 th Day	8 th Day	15 th Day	22 th day	29 th day	36 th day	43 th Day	49 th day

IV.NIRAM: [COMPLEXION]

1. Vadham
2. Pitham
3. Kabam

V.MOZHI: [VOICE]

1. High Pitched
2. Low Pitched
3. Medium Pitched

VI.VIZHI: [EYES]

Vizhi	0 th Day	8 th day	15 th day	22 th day	29 th day	36 th day	43 th Day	49 th day

VII. MALAM: [BOWEL HABITS / STOOLS]

	Before treatment	After treatment
Niram		
Irugal		
Ilagal		
Others		

VIII. MOOTHIRAM [URINE EXAMINATION]

NEERKKURI:

Neerkkuri	Before treatment	After treatment
Niram		
Manam		
Edai		
Nurai		
Enjal		

NEIKKURI

Neikkuri	Before treatment	After treatment
Snake like pattern		
Annular/Ringed pattern		
Pearl beaded pattern		
Other patterns		

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM”
 (INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE
 TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM IV : LABORATORY INVESTIGATIONS PROFORMA

1. SERIAL NO OF THE CASE:

2. OP / IP NO:

3. NAME: **4. AGE:** **5. GENDER:**

A) BLOOD INVESTIGATIONS:

BLOOD INVESTIGATIONS		NORMAL VALUES	BEFORE TREATMENT	AFTER TREATMENT
Hb (gm/dL)		M: 13-18 W: 11-16		
T.RBC (millions cells / Cu.mm)		M: 4.5-6.5 W: 3.5-5.5		
ESR (mm)	½ hr.	-		
	1 hr.	M: 0-10 W: 0-20		
T.WBC (Cells / Cu.mm)		4000-11000		
Differential Count (%)	Polymorphs	40-75		
	Lymphocytes	20-35		
	Monocytes	2-10		
	Eosinophils	1-6		
	Basophils	0-1		

BLOOD INVESTIGATIONS		NORMAL VALUES	BEFORE TREATMENT	AFTER TREATMENT
Blood glucose (mg/dl)	Fasting	70-110		
	PP	80-140		
Lipid profile (mg/dl)	Serum cholesterol	150-200		
	HDL	30-60		
	LDL	Up to 130		
	VLDL	40		
	TGL	Up to 160		
RFT (mg/dl)	Blood urea	16-50		
	Serum creatinine	0.6-1.2		
	Serum Uric acid	M: 3-9 W: 2.5-7.5		
LFT (mg/dl)	Total bilirubin	0.2-1.2		
	Direct bilirubin	0.1-0.2		
	Indirect bilirubin	0.2-0.7		
	Total protein	6-8		
	Serum Albumin	3.5-5.5		
	Serum globulin	2-3.5		
	Serum calcium	9-11		
	Serum phosphorus	2-5		
	SGOT (IU/L)	0-40		
	SGPT (IU/L)	0-35		
	Alkaline phosphatase (IU/L)	80-290		
CRP				
ASO titre				
RA factor				

B. URINE INVESTIGATIONS:

BLOOD INVESTIGATIONS	BEFORE TREATMENT	AFTER TREATMENT
Albumin		
Fasting sugar		
PP sugar		
Deposits		
Bile salts		
Bile pigments		

C. RADIOLOGICAL EXAMINATIONS

X-Ray Lumbo-sacral spine- AP view, Lateral view

	BEFORE TMT	AFTER TMT
X-RAY CHANGES		

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM”
(INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE
TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM V: INFORMED CONSENT FORM

“I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to participate in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care”.

"I have received a copy of the information sheet/consent form".

Date:

Signature of the participant:

In case of illiterate participant

“I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.”

Date:

Signature of a witness

Left thumb Impression of the

Participant

(Selected by the participant bearing no connection with the survey team)

Date:

Station:

Signature of participant:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை 47

அயோத்திதாஸ் பண்டிதர் மருத்துவமனை

தண்டகவாதம் நோய்க்கான சித்த மருந்துகளின் (அக்கினி சூரணம் மற்றும் கேதகி தைலம்) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்.

ஒப்புதல் படிவம்

ஆய்வாளரால் சான்றளிக்கப்பட்டது

நான் இந்த ஆய்வைக் குறித்த அனைத்து விபரங்களையும் நோயாளிக்குப் புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்.

தேதி :

கையொப்பம்:

இடம்:

பெயர் :

நோயாளியின் ஒப்புதல்

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும், மருந்தின் தன்மை மற்றும் மருத்துவ வழிமுறை பற்றியும், தொடர்ந்து எனது உடல் இயக்கத்தைக் கண்காணிக்கவும், அதனைப் பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின் போது, காரணம் எதுவும் கூறாமல், எப்பொழுது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்துக் கொள்ளும் உரிமையைத் தெரிந்திருக்கின்றேன். நான் என்னுடைய சுதந்திரமாகத் தேர்வு செய்யும் உரிமையைக் கொண்டு தண்டகவாதம் நோய்க்கான அக்கினி சூரணம் (உள் மருந்து) மற்றும் கேதகி தைலம் (வெளி மருந்து) மருந்தின் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

தேதி:

கையொப்பம்:

இடம்:

பெயர்:

தேதி:

சாட்சிக்காரர் கையொப்பம்:

இடம்:

பெயர்:

உறவுமுறை :

விரிவுரையாளர்கையொப்பம்:

துறைத்தலைவர் கையொப்பம்:

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM” (INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM VI - WITHDRAWAL FORM

SI NO:

OP / IP NO:

NAME

AGE / GENDER :

DATE OF TRIAL COMMENCEMENT:

DATE OF WITHDRAWAL FROM TRIAL:

REASONS FOR WITHDRAWAL:

- | | |
|---|---------|
| • Long absence at reporting : | Yes/ No |
| • Irregular treatment: | Yes/ No |
| • Shift of locality : | Yes/No |
| • Increase in severity of symptoms: | Yes/No |
| • Development of severe adverse drug reactions: | Yes/No |

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM
--

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM” (INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM VII – PATIENT INFORMATION SHEET

Name of Principal Investigator: Dr. R. Selvi

Name of the institute: National Institute of Siddha,
Tambaram Sanatorium,
Chennai-47.

INFORMATION SHEET FOR PATIENTS PARTICIPATING IN THE OPEN CLINICAL TRIAL.

I, Dr. R. Selvi studying M.D(Siddha) at National Institute of Siddha, Tambaram Sanatorium is doing a trial on “Thandaga vatham (Lumbar spondylosis). It is a common degenerative disease, occurring throughout the world. In this regard, I am in a need to ask you few questions. I will maintain confidentiality of your comments and data obtained. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study. Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study.

You can choose not to take part. You can choose not to answer a specific question. There is no specific benefit for you if you take part in the study. However, taking part in the study may be of benefit to the community, as it may help us to understand the problem of defaulters and potential solutions.

If you agree to be a participant in this study, you will be included in the study primarily by signing the consent form and then you will be given the internal medicine “Akkini Chooranam” (Internal medicine) 1.5gm b.d with hot water for 48 days) and

“Kethaghi Thailam”(External medicine). If you wish to stay in the In Patient ward Varmam Treatment will be provided to you assuring that you will not be definitely hurt in any course of treatment.

The information I am collecting in this study will remain between you and the principal investigator (myself). I will ask you few questions through a questionnaire. I will not write your name on this form. I will use a code instead.

The questionnaire will take approximately 20 minutes of your time.

If you want to know more about this study before taking part, you can ask me all the questions you want or contact Dr. R. Selvi, PG Scholar cum principal investigator of this study, attached to National Institute of Siddha, Chennai-47. You can also contact the Member-secretary of Ethics committee, National Institute Siddha, Chennai 600047, Tel No : 91-44-22380789, for rights and participation in the study.

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை 47

அயோத்திதாஸ் பண்டிதர் மருத்துவமனை

தண்டகவாதம் நோய்க்கான சித்த மருந்துகளின் (அக்கினி சூரணம் மற்றும் கேதகி தைலம்) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்.

முதன்மை ஆராய்ச்சியாளர் பெயர்: மருத்துவர்: இரா.செல்வி

நிறுவனத்தின் பெயர் தேசிய சித்த மருத்துவ நிறுவனம்

தாம்பரம் சானட்டோரியம்

சென்னை 600047

தேசிய சித்த மருத்துவ நிறுவனத்தில் பட்ட மேற்படிப்பு பயின்று வரும் நான் மருத்துவர்: இரா. செல்வி, தண்டகவாதம் என்னும் நோயில் மருத்துவ ஆராய்ச்சியில் ஈடுபட்டுள்ளேன்.

தண்டகவாதம் என்னும் நோயானது எலும்பு தேய்மானத்தாலும், முறையான இருக்கை முறைகளைக் கடைப்பிடிக்காததாலும், எலும்புகளுக்கு இடையே இடைவெளி குறைவதாலும் உண்டாகிறது

இது பரவக் கூடிய நோய் அல்ல.

இந்த ஆராய்ச்சி சம்பந்தமாக சில கேள்விகளைக் கேட்கவும், தேவையான ஆய்வகப் பரிசோதனைக்கு தங்களை உட்படுத்தவும் உள்ளேன்.

இந்த ஆராய்ச்சிக்கு தாங்கள் விருப்பத்தின் பேரில் உட்படும் பட்சத்தில் உள்மருந்தாக அக்கினிசூரணம் 1.5கி வெந்நீரில் கலந்து 2 வேளை(காலை மாலை) உணவுக்குப் பின் ஒரு மண்டலம் (48நாட்கள்) உட்கொள்ள வேண்டும். வெளி மருந்தாக கேதகி தைலம் வெளியே தடவ வேண்டும். வெளி நோயாளர்கள் 7 நாட்களுக்கு ஒருமுறை மருத்துவமனைக்கு வரவேண்டும். உள் நோயாளியாக தங்க விருப்பம் தெரிவிக்கும் பட்சத்தில் நோய்க்குத் தகுந்த வர்மச் சிகிச்சை அளிக்கப்படும்

இந்த மருந்து சிறப்பாக தண்டகவாதம் நோய்க்காக அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில் கூறப்பட்டுள்ளது.

இந்த ஆராய்ச்சியில் தங்களை அனுமதித்த பிறகு உங்களுக்கு விருப்பம் இல்லையெனில் எப்போது வேண்டுமானாலும் ஆராய்ச்சியில் இருந்து விலகிக் கொள்ள உரிமை உள்ளது.

இந்த ஆராய்ச்சி சம்பந்தமாக நோயின் தன்மை பற்றியும் மற்ற விபரங்களுக்கும் முதன்மை ஆராய்ச்சியாளரான மருத்துவர்: இரா.செல்வி (பட்ட மேற் படிப்பாளர் சிறப்பு மருத்துவத் துறை) அவர்களை எந்த நேரத்திலும் தொடர்பு கொள்ளலாம். கைப்பேசி எண் 9787264480.

மேலும் இந்த ஆராய்ச்சிக்கு தக்க அனுமதிச் சான்று (IEC) பெறப்பட்டுள்ளது.

இந்த மருந்து முற்றிலும் பாதுகாப்பான மூலிகைகளைக் கொண்டு தயாரிக்கப்பட்டுள்ளது. பக்க விளைவுகளை ஏற்படுத்தாது.

மேலும் உணவு முறையில் மருத்துவரால் கூறப்படும் பத்தியம் காக்குமாறு அறிவுறுத்தப் படுகிறது.

இது சம்பந்தமான தங்களது அனைத்து விவரங்களும் ரகசியமாக வைக்கப்படும் என உறுதி அளிக்கிறேன்.

இதில் பயணப்படி முதலிய எந்த உதவித் தொகையும் வழங்கப் பட மாட்டாது.

இந்த ஆராய்ச்சியின் போது உடலுக்கு வேறு பாதிப்பு ஏற்படும் பட்சத்தில் தேசிய சித்த மருத்துவமனையில் தக்க சிகிச்சை அளிக்கப்படும்.

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM
--

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM”
(INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE
TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM VIII - DRUG COMPLIANCE FORM

SERIAL NO:

OP/IP NO:

NAME:

AGE:

GENDER:

DRUG NAME: Akkini chooranam

OPD

On 1 st day-Date:	Drugs issued:21	(Gms)	Drugs returned:	(Gms)
On 8 th day-Date:	Drugs issued:21	(Gms)	Drugs returned:	(Gms)
On 15 th day-Date:	Drugs issued:21	(Gms)	Drugs returned:	(Gms)
On 22 th day-Date:	Drugs issued:21	(Gms)	Drugs returned:	(Gms)
On 29 th day-Date:	Drugs issued: 21	(Gms)	Drugs returned:	(Gms)
On 36 th day-Date:	Drugs issued: 21	(Gms)	Drugs returned:	(Gms)
On 43 th day-Date:	Drugs issued: 21	(Gms)	Drugs returned:	(Gms)

IPD

Day	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				Day 25			
Day 2				Day 26			
Day 3				Day 27			
Day 4				Day 28			
Day 5				Day 29			
Day 6				Day 30			
Day 7				Day 31			
Day 8				Day 32			
Day 9				Day 33			
Day 10				Day 34			
Day 11				Day 35			
Day 12				Day 36			
Day 13				Day 37			
Day 14				Day 38			
Day 15				Day 39			
Day 16				Day 40			
Day 17				Day 41			
Day 18				Day 42			
Day 19				Day 43			
Day 20				Day 44			
Day 21				Day 45			
Day 22				Day 46			
Day 23				Day 47			
Day 24				Day 48			

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM”
(INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE
TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM IX - DIETARY ADVICE FORM

சேர்க்கக் கூடிய உணவுகள் (Diet to be included):

காய்கள் (Vegetables):

- கத்தரிப்பிஞ்சு (Unripe brinjal)
- முருங்கைப்பிஞ்சு (Unripe drumstick)
- அவரைப்பிஞ்சு (Unripe Dolichos bean)

கீரைகள் (Greens):

- பொன்னாங்கண்ணி (Sessile plant [*Alternanthera sessilis*])
- மூக்கிரட்டை (Hog weed [*Boerhaavia diffusa*])
- தூதுவேளை (Climbing brinjal [*Solanum trilobatum*])
- முருங்கைக்கீரை (Leaves of Drumstick [*Moringa oleifera*])
- கறிவேப்பிலை (Curry leaf [*Murraya koenigii*])
- முடக்கறுத்தான் (Winter cherry [*Cardiospermum halicacabum*])
- அறுகீரை (*Amaranthus tristis*)
- கரிசாலை (trailing eclipta [*Eclipta prostrate*])

பழங்கள் (Fruits):

- மாதுளை (Pomegranate)
- ஆப்பிள் (Apple)
- பப்பாளி (Papaya)
- ஆரஞ்சு (Orange)
- பேரீச்சை (Dates)
- அத்தி (Fig)
- நாவல் (Jambul [*Syzygium cumini*])

அசைவம் (Non-vegetarian diet):

வெள்ளாட்டுக்கறி (Meat)

காடை (Quail)

சிறு இறால் மீன் (Prawn)

தவிர்க்க வேண்டியவைகள் (Diet to be avoided):

சுரை (Bottle gourd)

பூசணி (Pumpkin)

வெள்ளரிக்காய் (Cucumber)

புடலை (Snake gourd)

பீர்க்கு (Ridged gourd)

உளுந்து (Black gram)

மொச்சை (Indian butter Bean)

காராமணி (Cow gram)

கொள்ளு (Horse gram)

கடுகு (Mustard)

எண்ணெய் (Gingelly oil)

புளிப்பு (Sour)

உப்பு (Salt)

வாயுப் பொருட்கள் (Vatha diet)

உருளைக் கிழங்கு (Potato)

வாழைக் காய் (Plantain)

புகையிலை (Tobacco)

மது அருந்துதல் (Alcohol)

பெண்போகம் (இச்சா பத்தியம்) [Sexual intercourse]

மருத்துவ அறிவுரை (Medical advice):

- ஈரமில்லாத் தரையிலும், படுக்கையிலும் படுத்தல் வேண்டும் (Should avoid sleeping in wet floor or mattress)
- குளிர் காற்று படும்படியான இடத்தில் இருப்பதை தவிர்க்கவும் (Try to avoid cool breeze)
- நீண்ட நேரம் அமர்வதைத் தவிர்க்க வேண்டும்.(Should avoid prolonged sitting)
- அதிக சுமை தூக்குவதைத் தவிர்க்க வேண்டும்.(Should avoid heavy weight lifting)

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM
--

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM”
(INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE
TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

FORM X - ADVERSE REACTION FORM

SERIAL NO:

OP/IP NO:

NAME: **AGE:** **GENDER:**

DATE OF TRIAL COMMENCEMENT:

DATE OF OCCURRENCE OF THE ADVERSE REACTION:

TIME:

DESCRIPTION OF ADVERSE REACTION:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM
--

PRECLINICAL AND CLINICAL STUDY ON “AKKINI CHOORANAM” (INTERNAL) AND “KETHAGHI THAILAM” (EXTERNAL) FOR THE TREATMENT OF “THANDAGA VATHAM” (LUMBAR SPONDYLOSIS).

Form XI: VARMAM THERAPY – OBSERVATION CHART.

EFFECT OF VARMAM THERAPY ALONG WITH TRIAL DRUG

SERIAL NO: **OP/IP NO:**

NAME: **AGE/ GENDER:**

COMPLAINTS AND DURATION:

VARMAM POINTS (IP PATIENTS):

- Komberi
- Viruthi
- Ullangai vellai
- Ullangal vellai
- Nangana poottu

[Ref: Varma pullikalalin Irupidam(T.KannanRajaram)]

OTHER REMARKS:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD